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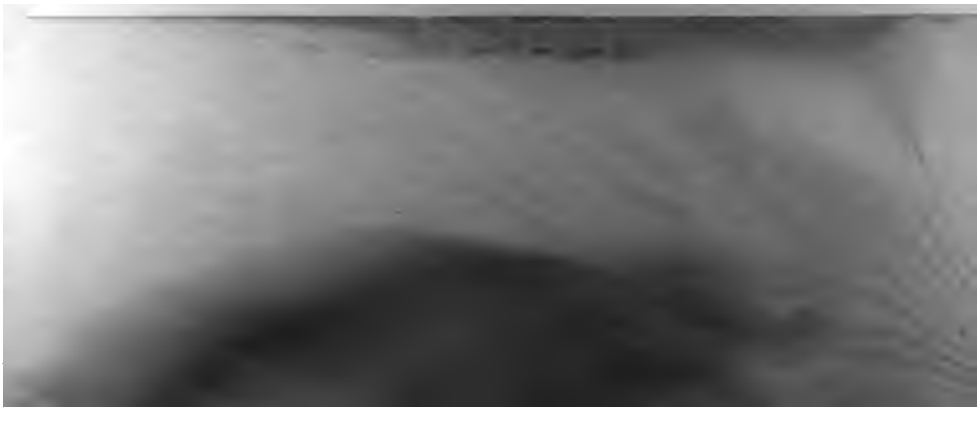
FROM
Mr. Byron A. Finney

JOHN DAVIS PIERCE,

First Superintendent of Public Instruction of Michigan.

[For biographical sketch see page 131.]



FIFTY-SEVENTH ANNUAL REPORT

OF THE

SUPERINTENDENT OF PUBLIC INSTRUCTION

OF THE

STATE OF MICHIGAN

WITH

ACCOMPANYING DOCUMENTS

FOR

THE YEAR 1893

BY AUTHORITY

LANSING
ROBERT SMITH & CO., STATE PRINTERS AND BINDERS
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Exchange
Byron A. Finney

TABLE OF CONTENTS.

PART I.

SUPERINTENDENT'S REPORT (INTRODUCTION):

Teachers' Examinations 1
The Value of Teachers' Associations, county and district 5
Educational Councils and Rallies 6
Compulsory School Law 8
Free Text-books 8
Uniformity of Text-books 8
Necessary Apparatus 8
Miscellaneous Suggestions 8
More Normal Schools 9
Free Text-books 10
Libraries 10
The Township Unit System 18
Vertical Writing 18
Science in Primary Grades 18
Committee of Ten 19
Old Glory 20
School Grounds 21
School Architecture 22
Heating and Ventilating 22
Miscellaneous 23
Plans of School Houses 24
School Out-houses 38
Diagrams 41
Changes in School Law 52
College Diplomas and Certificates 53
The Michigan School Exhibit 54
Educational Funds 55
The Primary School Fund 55
Primary School Interest Fund 55
University Fund 56
Agricultural College Fund 56
Normal School Fund 56

STATISTICAL TABLES:

Comparative Summary of Statistics for the years 1892 and 1893 58
Apportionment of Primary School interest fund, May and November, 1893 64
General school statistics 66
Employment of teachers 69
Resources of school districts 72
Expenditures of school districts 74
Miscellaneous financial statistics 76
Cost per capita of public schools 78
Statistics of township and district libraries 80
Branches of instruction 82
Private and select schools 84
Examination and certification of teachers 85
Conditions of schools and school houses 88
Miscellaneous statistics 90
Instruction in physiology 92
Graded school statistics 98
Miscellaneous statistics, city schools 108
Financial statistics, city schools 114
Receipts and expenditures at teachers' institutes, 1893 118
Local committees, conductors, etc., at teachers' institutes, 1893 120
Enrollment at teachers' institutes, 1893 122
List of school commissioners and county examiners for 1893-94 124
General statistics of State and incorporated institutions 128
Financial statistics of State and incorporated institutions 129

PART I.—*Continued:*

BIOGRAPHICAL SKETCHES OF EX-SUPERINTENDENTS OF PUBLIC INSTRUCTION:
Rev. John Davis Pierce ... 131
Franklin Sawyer, Jr. ... 133
Oliver Cromwell Comstock ... 135
Ira Mayhew ... 137
Francis Willett Shearman ... 139
John M. Gregory ... 141
Oramel Hosford ... 143
Daniel Brown Briggs ... 145
Horace S. Tarbell ... 147
Cornelius A. Gower ... 149
Varnum B. Cochran ... 151
Herschel R. Gass ... 153
Theodore Nelson ... 155
Joseph Estabrook ... 157
Ferris S. Fitch ... 159
Courtland B. Stebbins, Ex-Deputy Superintendent ... 161
Index of Report of 1892-93, Part I ... 163

PART II.

STATE TEACHERS' ASSOCIATION:
List of officers from 1860 to 1893 ... 2
List of officers for 1893-4 ... 3
Names of those attending ... 4
Report of the Forty-second Annual Meeting ... 7

PAPERS AND ADDRESSES:

COMMISSIONERS' DEPARTMENT:
"The Need of Better Facilities for the Professional Training of Teachers for our Common Schools," Commissioner Enoch Andrus ... 7
"Has the Attempt to Grade Country Schools Proved a Success," Commissioner P. M. Brown ... 14
Examinations and Promotions in the Country Schools, Commissioner A. G. Randall ... 21
Report on Needed Legislation ... 31
Address of Welcome, Mayor A. O. Bement ... 32
Response to Address of Welcome, Supt. F. E Converse ... 32
President's address, W. H. Cheever ... 33
"General culture as an Element in Professional Training," Dr. R. G. Boone ... 39
Manual training, Prof. H. H. Belfield ... 51

PRIMARY SECTION:
Concentration of Studies, Regenia R. Heller ... 57
Unification of work, Miss Maud Ball ... 64
"Reading as a Basis of Unification," Supt. J. W. Smith ... 66
"History as a Basis of Unification," Miss Grace Goodrich ... 70
"Literature as a Basis of Unification," Miss Rose Barlow ... 74
"Nature Study as a Basis of Unification," H. Antoinette Lathrop ... 80
"Nature Study as a Basis of Unification," Miss Louise Miller ... 83

COLLEGE SECTION:
Report of Committee on Organization ... 88
"College Athletics—The Proper Attitude of Faculty and Students Toward Them," Prof. Smith Burnham ... 89
Report of Committee on College Requirements for Admission ... 100
Report of the Executive Committee upon the Teachers' Building at Hackley Park ... 103
"The Teaching of Science in the Public Schools," Supt. A. S. Draper ... 104
"The Michigan Mining School," M. E. Wadsworth ... 105
Miscellaneous Business ... 117
Report of Treasurer ... 120
"The Township Unit," Supt. C. W. Hills ... 121

REPORTS OF COUNTY COMMISSIONERS OF SCHOOLS:
Alcona county ... 135
Allegan county ... 136
Alpena county ... 138
Antrim county ... 140
Arenac county ... 141
Baraga county ... 141
Bay county ... 142
Barry county ... 143
Branch county ... 145
Benzie county ... 146
Calhoun county ... 148
Charlevoix county ... 151
Cheboygan county ... 153
Chippewa county ... 154
Clare county ... 155
Clinton county ... 156
Crawford county ... 158

PART II.—*Continued:*

REPORTS OF COUNTY COMMISSIONERS OF SCHOOLS.—*Continued:*

Delta county 159
Dickinson county 160
Eaton county 161
Gogebic county 162
Grand Traverse county 163
Hillsdale county 164
Houghton county 165
Huron county 167
Iosco county 168
Iron county 170
Jackson county 171
Kalamazoo county 172
Kalkaska county 173
Keweenaw county 174
Kent county 174
Lapeer county 176
Livingston county 177
Lenawee county 177
Manistee county 179
Marquette county 180
Mason county 181
Mecosta county 183
Menominee county 184
Midland county 187
Missaukee county 188
Monroe county 189
Newaygo county 190
Oakland county 192
Oceana county 194
Ogemaw county 195
Oscoda county 196
Osceola county 198
Otsego county 199
Roscommon county 200
Shiawassee county 201
Schoolcraft county 202
Wayne county 203
Wexford county 204

QUESTIONS FOR STATE AND COUNTY EXAMINATIONS:

State examination, August, 1893 207
State examination, December, 1893 214
County examinations, March 2-3, 1893 221
County examinations, August 3-4, 1893 229

SUPREME COURT DECISIONS:

Detaching territory from graded districts 241
Notice for calling of Special School Meeting 241
Teachers' Contracts Made Prior to Annual School Meeting 242
County Commissioners of Schools—Qualifications for office 244
Authority to Purchase School Apparatus 247

REPORTS FROM STATE AND INCORPORATED INSTITUTIONS:

UNIVERSITY OF MICHIGAN:

Report of President 251

STATE NORMAL SCHOOL:

Report of Principal 265
Report of Board of Visitors 274

STATE AGRICULTURAL COLLEGE:

Report of President 276

MICHIGAN MINING SCHOOL:

Report of Director 281
Report of Board of Visitors 298

AKELEY INSTITUTE:

Report of Chaplain 301
Report of Board of Visitors 302

ADRIAN COLLEGE:

Report of President 304
Report of Board of Visitors 315

ALBION COLLEGE:

Report of President 316
Report of Board of Visitors 321

PART II.—*Continued:*

REPORTS FROM STATE AND INCORPORATED INSTITUTIONS.—*Continued:*

ALMA COLLEGE:
Report of President 323
Report of Board of Visitors 325

BATTLE CREEK COLLEGE:
Report of President 328
Report of Board of Visitors 330

BENZONIA COLLEGE:
Report of President 331
Report of Board of Visitors 333

CLEARY'S BUSINESS COLLEGE:
Report of Board of Visitors 334

DETROIT COLLEGE:
Report of President 335
Report of Board of Visitors 341

DETROIT HOME AND DAY SCHOOL:
Report of Principal 343
Report of Board of Visitors 346

EVELYN INDUSTRIAL INSTITUTE FOR GIRLS:
Report of Superintendent 348

GERMAN AMERICAN SEMINARY:
Report of Principal 351

HILLSDALE COLLEGE:
Report of President 352

THEOLOGICAL SCHOOL OF THE HOLLAND CHRISTIAN REFORMED CHURCH:
Report of Rector 353
Report of Board of Visitors 354

HOPE COLLEGE:
Report of President 356
Report of Board of Visitors 364

KALAMAZOO COLLEGE:
Report of President 366
Report of Board of Visitors 377

MICHIGAN FEMALE SEMINARY:
Report of Board of Visitors 379

MICHIGAN MILITARY ACADEMY:
Report of Superintendent 381

OLIVET COLLEGE:
Report of President 384
Report of Board of Visitors 397

RAISIN VALLEY SEMINARY:
Report of Principal 399
Report of Board of Visitors 400

ST. MARY'S ACADEMY:
Report of President 401
Report of Board of Visitors 403

SPRING ARBOR SEMINARY:
Report of Principal 405
Report of Board of Visitors 406

WESTERN MICHIGAN COLLEGE:
Report of Board of Visitors 408
Index, Report 1892-93, Part II 409

STATE OF MICHIGAN,
DEPARTMENT OF PUBLIC INSRUCTION,
Lansing, July 1, 1894.

To His Excellency, JOHN T. RICH,
Governor of the State of Michigan:

SIR—In compliance with the provisions of law, I have the honor herewith to transmit through you to the Legislature, the annual report of the Superintendent of Public Instruction, together with the accompanying documents, for the year 1893.

Very respectfully,
Your obedient servant,
HENRY R. PATTENGILL,
Superintendent of Public Instruction.

SUPERINTENDENT'S REPORT.

In submitting this report I take great pleasure in saying that educational affairs in Michigan are in most excellent condition. The schools of all grades are improving. Patrons and teachers are more interested than ever before. The persistent, systematic, and able work of years past begins to show fruit.

It has been the policy of the Superintendent to visit various portions of the State, and the able and loyal work of the office force has enabled him to devote the greater portion of his time to educational meetings and the visitation of schools.

Since assuming the duties of the office, I have visited 613 schools in 180 different cities and villages situated in 64 counties; given 155 lectures and addresses on school topics; attended 51 teachers' associations and 31 institutes; conferred personally with 74 county school commissioners and traveled 30,116 miles. This is not said boastingly, but merely for the purpose of giving readers some idea of the efforts made to become conversant with the real status of school work in this commonwealth, and to make known the grounds upon which the opinions of the report are based.

I wish in this connection to express my hearty appreciation of the courtesies extended to me by many friends of education, to acknowledge the valuable assistance of Deputy Superintendent Hammond and his loyal helpers in the office.

The suggestions made herewith are prompted by a desire to advance the educational work of our State, and to help on the movement already so well started for placing a complete and generous education within the reach of every child, and to use all possible means for inducing or compeling every girl and boy of Michigan to acquire at least the elements of a good English education.

TEACHERS' EXAMINATIONS.

The question of teachers' examinations has always been a perplexing one. No matter how excellent the questions for such examinations may be, nor how thoroughly and honestly conducted, it will still be true that examinations alone are an inadequate test of a candidate's ability to teach school. The qualifications requisite for good school teaching cannot be ascertained by any set of questions whether oral or written; and yet, where the teachers must be employed for a large extent of territory and for many schools, no other plan has been suggested better than the plan of exami-

uniform combined by the supervision exercised by the county school commissioner.

The first essential element in a teacher is good scholarship. No amount of tact, or method, or skill in the use of devices will make up for the deficiency in scholarship. In thus emphasizing the value of this factor we by no means overlook the value of tact and good method. If, however, we are to do without one of these, we think we could more safely risk the teacher with scholarship than the one with method and poor scholarship. It would seem, however, that in Michigan with more than two and one half million inhabitants, that it is not necessary for our schools to put up with poor teachers. In other words, we have a right to call for the best both in scholarship, tact and method. For many years the institute instructors in this State have been trying to mould the plan of instruction to be given in the schools, more especially in the line of history, geography, and language. One of the surest ways to bring about a reform in any branch of instruction is to put into the examination questions those questions that will call for the kind of instruction deemed advisable. For example if we thought best in accordance with the modern idea of teaching geography to treat the earth as a home for man, and bring to the aid of geography the allied branches of botany, geology, meteorology, and mineralogy, we can best bring about this change by putting into the examination questions [illegible] will call for knowledge of these topics.

[illegible]

have the choice of two classes of questions, Class A, leading to a certificate which is good only to those who have had already three years of experience in teaching; and such certificates are good only in graded schools. Any number of these certificates may be obtained by the candidate who wishes to teach only in graded schools. Third grade certificate of Class B. are good in all grades, but the number of such certificates granted to one person is limited to three. This was done in order to stimulate persons to acquire a broader scholarship, and thus give to our district schools teachers of greater ability and maturer years. The minimum age is made seventeen years, instead of sixteen, thus giving to the candidate one year more of preparation before he takes up the responsible duties of a teacher; and surely no one will say, after a careful investigation of this subject, that this age is any too high. Persons assuming to teach should be possessed of good judgment, and it would be far better for the schools if the limit of the age were higher instead of lower. This extra year will give the younger pupils from our schools, who wish to become teachers, additional time for ripening and disciplining the mind for the responsible position which they will occupy.

To return now to the details of the examination; we will note some of the changes which have been made. In the first place, in four or five of the branches one-tenth of the standing is to be marked upon the neatness with which the candidate prepares his examination paper, the manner in which the headings are made, the sub-headings, the paragraphing, statement of equations and problems, and many other little marks that show good qualifications in a teacher. If one is careless about these things, loose, slip-shod in his work, he will allow pupils in his school to do careless and slip-shod work. If, on the other hand, neatness and care are prominent characteristics of a candidate, it may be assumed that these same qualities may be found prominent in his teaching.

In grammar, thirty per cent of the standing has been given to the preparation of a brief essay, which will be written at the time of the examination upon some very familiar topic. This test is to show the candidate's ability in the use of good, clear English. Marking by the examiner is based upon the punctuating, paragraphing, and general style of the composition. The topics given at the last examination in the various grades were as follows:

First and second grades.

Improvements in Farm Implements.
Life of George Washington.
The Columbian Exposition.
The Essentials of a Good School.
Report of a Teachers' Association (imaginary).

Third grade, both classes.

Beautifying School Grounds.
Abraham Lincoln.
The Sandwich Islands.
Memorial Day.
The Delights of Teachers' Examinations (imaginary).

This change has met with the greatest approval, so far as we have been able to learn, of examining boards and teachers alike.

In the theory and art of teaching, one half the marking is to be based upon the teacher's ability to teach school, the loyalty displayed in attend-

which may be paid from the county fund. If a membership fee is charged the money thus obtained may be used for securing lecturers from outside the county.

The reports in this department now show that there are sixty-one counties in this State that have an organized teachers' association. Some of these are not as vigorous as they should be, owing, in some instances, to the difficult means of communication between the various parts of the county, and in other places to lethargy on the part of the teachers or commissioner. We hope that during the coming year every county in the State may report a live and flourishing county teacher's association; and we would suggest that at one or the other of the meetings there shall be a plan made for a general exhibit of the work done in the country and graded schools of the county.

In certain localities we hear the objection raised that the graded and country school teachers do not coöperate cordially. Sometimes the statement is made that the city teachers feel that there is no value to be derived from a teachers' association for them, because the work is not exactly "along their line," or that they have so many grade meetings and teachers' meetings of their own to attend that they do not like to take a day to attend a county association. Now it seems to me that the teachers of both country and graded schools may be benefited by mingling with each other. The city teacher will find that the reflex action of doing a good deed will help her the better to teach school. The teacher who thinks that her whole duty in the line of school work is to be found within the walls of her school room, is very apt to be narrowed by her work. She loses sympathy for others, and finally for her pupils. The rest that comes from a day's outing, attending one of these live associations, talking with others about their work, getting hints and suggestions on general educational topics that are as valuable for city as for country schools, will be found helpful to the teacher in her further work.

One fault of the association which we would suggest from the experience we have had, is the failure to begin promptly on time, and the consequent rushing which is necessary to complete the program after beginning. Recess should be provided for so that teachers may become acquainted. Introduction committees should always be appointed so that teachers may make new acquaintances, and so that no one should be long a stranger in a teachers' association. The association should also sing many songs which are common to all. No meeting of this sort should be held without the flag flying from the school flag staff, or decorating the walls in which the meeting is held.

EDUCATIONAL COUNCILS AND RALLIES.

The Superintendent of Public Instruction early realized the necessity of harmonious work with the boards of examiners and county school commissioners. He also realized the importance of acquainting himself with the school work in every portion of the State, and of learning the sentiment and peculiar conditions existing in different counties.

With this in view the State was divided into twenty-one districts, and a convenient place of meeting suggested for each district. The following are the places of meeting, counties comprising the districts and date of each meeting:

1.	Cassopolis	Berrien, Cass, St. Joseph	Feb. 16, 1894
2.	Hillsdale	Branch, Hillsdale, Lenawee	May 11, 1894
3.	Wayne	Monroe, Wayne, Washtenaw	Dec. 22, 1893
4.	Kalamazoo	Van Buren, Kalamazoo, Allegan, Barry, Calhoun	Mar. 23, 1894
5.	Lansing	Eaton, Jackson, Livingston, Ingham	Feb. 2, 1894
6.	Port Huron	Macomb, St. Clair, Sanilac, Huron	May 18, 1894
7.	Lapeer	Tuscola, Lapeer, Oakland. Genesee	Jan. 19, 1894
8.	Owosso	Saginaw, Shiawassee, Clinton, Gratiot	Dec. 8, 1893
9.	Grand Rapids	Kent, Ottawa, Ionia, Muskegon, Oceana	Jan. 5, 1894
10.	Big Rapids	Newaygo, Montcalm, Mecosta	Mar. 16, 1894
11.	Bay City	Bay, Midland, Gladwin, Arenac	Oct. 27, 1893
12.	Cadillac	Isabella, Clare, Osceola, Wexford, Missaukee, Kalkaska	Jan. 12, 1894
13.	Manistee	Mason, Lake, Manistee	Feb. 9, 1894
14.	Traverse City	Benzie, Leelanaw, Grand Traverse	Dec. 15, 1893
15.	Charlevoix	Antrim, Emmet, Charlevoix	May 4, 1894
16.	Gaylord	Otsego, Cheboygan, Crawford, Roscommon, Oscoda, Montmorency, Ogemaw	Mar. 9, 1894
17.	Harrisville	Alcona, Alpena, Presque Isle, Iosco	Nov. 17, 1893
18.	St. Ignace	Mackinac, Luce, Chippewa	June 1, 1894
19.	Negaunee	Marquette, Alger, Schoolcraft, Delta	Apr. 13, 1894
20.	Iron Mountain	Menominee, Iron, Dickinson, Gogebic	Apr. 20, 1894
21.	Houghton	Houghton, Baraga, Keweenaw, Ontonagon	May 25, 1894

The "Council" was in all cases called to meet Friday, and to this meeting were invited all the examiners and commissioners of the district, the school officers, and superintendents of schools. Teachers and others were welcome, and many attended.

These councils were entirely informal. Any question could be brought up. No formal speeches were made. Every one could air his views as freely as he pleased. To show the nature of the councils we give herewith the list of topics suggested for discussion in the notices sent out from the department:

Amendments to the school law.
Methods of conducting examinations, marking papers and giving results.
Should the country schools be graded?
Relation of district to city schools.
Relation of district board to school.
Relation of patrons to the schools.
Benefits of the township district.
Uniformity of text-books.
Free text-books.
Equalization of taxation.
The township institute.
County institute.
The use and abuse of examinations.
District libraries.

These "councils" have proved very helpful indeed to the State Superintendent in making him conversant with public sentiment concerning school matters as viewed by all the factors that are active in the administration of school affairs. At every council there were representatives from school boards, patrons, teachers, examiners and commissioners. The commissioners from ten counties only failed to appear at any rally. Some of these had good excuses, the others are commissioners merely for the money there is in it, and pay very little attention to anything outside the required duties of the office, and we are sorry to say they do not always attend to these duties as they should. The people of such counties should see to it that the places of such commissioners are filled by those who will conscientiously perform the duties of the office.

The Superintendent has been greatly encouraged in his work by the acquaintances made with many earnest and brainy school officers; but, in some instances, the meagre attendance of this class was an evidence of a great lack of interest and of appreciation of the responsibilities of school officers.

It would be interesting could we give herewith a brief report of each council, but space forbids. However, we will give briefly some of the conclusions and recommendations:

COMPULSORY SCHOOL LAW.

In nearly every council the vote was unanimous favoring a more rigorous compulsory school law. It was thought that the chairman of the board of school inspectors should be made the officer whose business it would be to enforce the law. That he should be paid for doing his duty, and fined for neglecting it. That the law should be made a misdemeanor law, and parents who refused to comply with the provisions should be punished by fine or imprisonment. That the time should be fixed when each pupil should begin school. That the minimum number of months should be put at five (in some counties six) three of which should be consecutive. Some favored making the minimum age seven years.

FREE TEXT-BOOKS.

In nearly every council the vote favored free text-books. The northern councils were more outspoken for it than others.

UNIFORMITY OF TEXT-BOOKS.

Almost every council favored county uniformity; but it was everywhere acknowledged that the free text-book system would solve the problem of uniformity of text-books.

NECESSARY APPARATUS.

It was voted by many councils that the law should specify what necessary apparatus *may* be purchased by the district board. The following things were voted in nearly every instance: unabridged dictionary, set of outline maps, globe, reading chart, numeral frame, physiological charts, not to exceed ten dollars in cost; kindergarten or busy work material not to exceed five dollars worth.

MISCELLANEOUS SUGGESTIONS.

1. The library funds should be used for library purposes only.
2. Primary school fund should be withheld from a district which would not keep its outhouses in good repair.
3. County school commissioners should be given the power to cause outhouses to be put in proper condition, and cost of same spread on tax roll of the district, providing due notice had been given to the board of the condition of the same, and the board had neglected to attend to the matter.

4. Everybody favored the grading of country schools.
5. Many favored but four teachers' examinations per year.
6. Would have compulsory attendance at institutes.
7. Would increase the life of first and second grade certificates. Some would make first grade good for eight years, others ten.
8. Would require at least a second grade certificate as a qualification of a member of the board of examiners.
9. Would increase the minimum number of months of school to seven months in districts of thirty or more pupils, and to five in districts of less than thirty.
10. School commissioners should be required to have at least three years' experience as a teacher.
11. School examiners and commissioners should be American citizens, or should at least have declared their intention to become such.
12. Time given for teachers' examination should be at least one and one-half days each.
13. Working school libraries favored.
14. Institutes unanimously favored.
15. Would make eighteen the minimum age of candidates for teaching,
16. Would require American citizenship or declaration of all teachers.
17. Papers of candidates for teachers' certificates should be kept on file at least six months after such examination, and subject to the inspection of the candidate.
18. Would give school boards the right to fix a time at which beginners could enter school.
19. Would have a special law punishing those who deface school buildings with obscene markings.
20. Would give no person a life certificate to teach, until such person had taught successfully for at least four years.

MORE NORMAL SCHOOLS.

Of the sixteen thousand school teachers in Michigan, but two thousand five hundred forty-nine have received special instruction in the science and art of teaching. Not until our people require teachers to have more professional knowledge, and are willing to pay wages sufficient to induce teachers to make a permanent business of teaching, can we expect the best results.

Our State Normal School is doing a most excellent work, and its graduates are quickly selected for positions by superintendents of city schools, or, as is frequently the case with the gentlemen, take positions as principals or superintendents. The numbers, however, who annually graduate are small compared with the large number of teachers, and really do not much more than fill in the places made vacant by those who leave the work.

New York sees the importance of special training of teachers and provides eleven normal schools. Wisconsin, our near neighbor, has five; Minnesota, four; Michigan needs more.

It would not be necessary that these should be as complete as the one at Ypsilanti. If one were to take graduates of high schools and with just enough of academic instruction to illustrate the methods, give these persons a good course in the science and art of teaching in all the grades for two

years, we might hope in a short time to put into our rural and smaller schools many trained teachers.

Owing to the financial condition of the country it may not be a very favorable time to consider this question, but surely our people should be thinking seriously of putting more trained teachers within the reach of rural schools. There are many young men and women now teaching in these schools who would gladly avail themselves of an opportunity of taking a course of instruction in preparing themselves better to do their work, providing the opportunity was given. From each normal school would go forth an influence to the several counties contiguous to it, and by having several such schools their influence would cover the State.

FREE TEXT-BOOKS.

The system of free text-books which provides for the ownership of the books by the district and loaning them to pupils has been tried by some of our cities and a few of our rural districts for several years. In journeying about the State we have taken especial pains to inquire how satisfactory the system proves to be, and almost without exception it is most unanimously commended by both city and country districts. The cities of the State which have adopted the system are Detroit, Grand Rapids, Saginaw E. S., Bay City. Of these cities East Saginaw has tried the system for the past nine years. None but laudatory reports come from officers and teachers concerning the workings of the plan. We give herewith a table showing the average cost per capita for text-books during the past nine years in Saginaw, E. S.:

Year.	Total cost.	Fines collected injuries to books.	Actual cost.	No. pupils.	Cost per pupil.
1885-6	$4,971 48	$116 70	$4,854 78	4,432	$1 10
1886-7	3,009 88	78 33	2,931 55	4,537	53
1887-8	1,959 39	81 74	1,877 65	4,564	41
1888-9	2,097 65	80 50	2,017 15	4,647	43
1889-90	2,492 48	2 82	2,489 66	4,827	52
1890-1	2,611 96	58 16	2,553 80	4,812	53
1891-2	3,943 09	92 24	3,850 85	4,842	79
1892-3	3,346 98	82 98	3,264 00	5,706	58
1893-4	3,395 00	71 21	3,323 79	5,231	63

This should encourage other cities and villages to try the experiment. The rural teachers and school officers of the districts where the plan has been tried, say that the books are kept better than when owned by the individuals, the cost is reduced, uniformity secured, and time saved; because pupils are always provided with books on the first day of the term instead of being obliged to "wait until pa goes to town," till he forgets to get the book once or twice, and then buys the wrong book. The expense upon the whole district is insignificant, and the advantages are so apparent that it would seem advisable for every district to adopt the plan. The districts now working under the system are mostly in the northern part of the State.

LIBRARIES.

The most important factor in a good school, next to the teacher, is a good school library. If my child could have but one, either a college education or a taste for good literature with ability to read it, I would without hesi-

tation choose the latter. Fortunately we are not obliged to make this choice. A taste for good reading, and a generous education are both within the reach of every child in Michigan. In many of our cities by means of the philanthropic gifts of wealthy men, or the far sighted acts of school authorities, fully equipped libraries are established and made accessible to all the people. In nearly all our cities, and in many villages, there have been established what are known as working school libraries—selection of books adapted to the different grades of schools, and more especially designed to aid in the teaching of literature, history, geography, and science. These books are kept by the teacher of each grade, and are made very accessible to the pupils of the school. Further than this, courses of reading have been mapped out for pupils, and the teachers have sought to lead pupils to read these books, and to converse with the teacher on the topics read. In this way a taste for reading has been formed in many instances, and a better spirit of study has been the direct result of this reading. Besides this, the parents of these pupils have oftentimes become interested in reading, and the pupils have been encouraged to start a little library of their own. Who can estimate the value of such beginnings? Parents will find that the question of keeping the boy at home evenings is very largely solved when the same boy shall become interested in the reading of good books. We are the heirs of all the ages in literature as well as in the more material things of which we boast. The publication of inexpensive editions of our classics has aided very materially in this spread of general intelligence and love for reading.

It will be seen that we have thus far spoken only of the schools found in our cities and villages. We are very sorry indeed that as encouraging words cannot be said of our rural schools, but owing to the peculiar laws of Michigan, or to the general listlessness on this topic, the chapter of rural school libraries would be very much like the chapter in a certain history of Ireland, entitled "Snakes in Ireland." The author begins and finishes the chapter by "There are no snakes in Ireland."

By referring to a diagram in another part of this report, it will be noticed that the libraries in districts of less than one hundred children show a very rapid decline from the year 1882. We refer no further back than 1882 because the statistics in this office were not very complete prior to that time. Out of the 7,000 rural school districts in Michigan, there were but 994 district school libraries. In 1880 there were 1275 districts, of less than 100 pupils, that supported district libraries. In 1892 there were but 750 of these libraries. Many of these libraries we happen to know consist of a few dust-covered, worm eaten public documents, reports of State officers, and other soul-stirring literature of this sort. Now what is needed is a well selected working library in each school, to be kept in the school-house in a neat case prepared for it, to be under the control of the teacher, and to be used not as a circulating library in the district so much as a reference library and an inspiration to the pupils of the schools. The new method of teaching history and geography absolutely requires some books of supplementary matter. If the study of our history is to be something more than the mere learning of a few dry facts and dates, and the study of our geography something more than the committing to memory of certain statistics and lists of names. we must lead the pupils to read biography and travel, and to look into the cause and effect of history, and into geography as a home for man. With proper supplementary books within easy reach of the pupils, these studies

may be thus pursued in our district schools, provided we have teachers who also have a taste for reading and who know its value.

The expense for this addition to the schools need not be very great, and in the first place there should be an amendment made to that section of the constitution which gives the township board the right to vote the library money to any other purpose than to libraries.

In order to aid in the proper selection of such libraries the Department of Public Instruction some time ago sent out requests to 100 different teachers in the State, asking them to name the books they found best suited to supplement the work of various branches, and many excellent lists were received. A careful compilation was then made, and the lists following are the result. No $25 list was prepared, since one can so readily be made by combination of the $5 and $10 lists.

The prices affixed are from wholesale lists, and where small orders are given to local dealers the libraries will necessarily cost somewhat more than the amounts named in the schedules herewith given.

FIVE-DOLLAR LIBRARY.—(13 books.)

Publisher.	Author.	Title.	Price.
Science—			
Ginn & Co.	Jane Andrews	Stories Mother Nature Told	$0 50
Lothrop	Beach	Wonder Stories of Science	63
Am. Book Co.	Johonnot	Friends in Feathers and Fur	30
History and Biography—			
Lee & Shepard	Watson	The Boston Tea Party	25
Porter & Coates	Strickland	Tales from English History	27
" "	Laing	Heroes of the Seven Hills	27
Lee & Shepard	Blaisdell	Stories of the Civil War	25
Geography and Travel—			
Houghton & Mifflin	Anderson	Pictures of Travel	80
Ed. Pub. Co.	Mara Pratt	Stories of Australasia	36
Ginn & Co.	Church	Stories of the Old World	40
General Literature—			
Houghton & Mifflin	Longfellow	Evangeline (portrait, life, and notes)	25
" "	K. D. Wiggin	Story of Patsy	50
Porter & Coates	Hughes	Tom Brown at Rugby	27
Total			$5 05

FIVE-DOLLAR LIBRARY.—(12 books.)

Publisher.	Author.	Title.	Price.
Science—			
Macmillan	Kingsley	Madam How and Lady Why	$0 50
Am. Book Co.	McGuffey	Living Creatures of Water, Land, and Air	50
Ed. Pub. Co.	Mara Pratt	Storyland of Stars	40
History and Biography—			
Ginn & Co.	Jane Andrews	Ten Boys Who Lived on the Road to Long Ago	50
Am. Book Co.	Johonnot	Stories of Our Country	40
Ed. Pub. Co.	Mara Pratt	Story of Columbus	40
Geography and Travel—			
Ed. Pub. Co.	Jane Andrews	Seven Little Sisters Prove Their Sisterhood	50
Ginn & Co.	Frye	Brooks and Brook Basins	58
Ed. Pub. Co.	Mara Pratt	Stories of China	27
General Literature—			
Leach, Shewell & Sanborn	Hale	Stories for Children	35
Porter & Coates	Dickens	David Copperfield	27
Ginn & Co.	Kingsley	Greek Heroes	35
Total			$5 02

FIVE-DOLLAR LIBRARY.—(14 books.)

Publisher.	Author.	Title.	Price.
Science—			
Putnam	D'Anvers	Lowest Forms of Water Animals	$0 35
Appleton	Damon	Ocean Wonders	50
Ed. Pub. Co.	Mara Pratt	Little Flower Folks (Vol. I)	30
History and Biography—			
Am. Book Co.	Johonnot	Stories of Heroic Deeds	30
Ginn & Co.	Scott	Tales of a Grandfather	40
Houghton & Mifflin	Fiske	War of Independence	60
Porter & Coates	Laing	Seven Kings of the Seven Hills	27
Geography and Travel—			
Ginn & Co.	Jane Andrews	Seven Little Sisters	50
Ed. Pub. Co.	Mara Pratt	Stories of India	36
Ginn & Co.	Church	Stories of the Old World	40
General Literature—			
Porter & Coates	Cooper	The Deerslayer	27
Am. Book Co.	Scott	Lady of the Lake	30
Ginn & Co.	Irving	Sketch-book for Children	35
" "	Webster	First Bunker Hill Oration	10
Total			$5 00

FIVE-DOLLAR LIBRARY.—(14 books.)

Publisher.	Author.	Title.	Price.
Science—			
Am. Book Co.	McGuffey	Familiar Animals and Their Wild Kindred	$0 50
" " "	Johonnot	Neighbors with Wings and Fins	40
Ginn & Co.	Hale	Little Flower People	40
History and Biography—			
Porter & Coates	Dickens	Child's History of England	27
Hurst	Creasy	Fifteen Decisive Battles of the World	45
Am. Book Co.	Johonnot	Grandfather Stories	27
Ed. Pub. Co.	Mara Pratt	American History Stories (Vol. I.)	36
Geography and Travel—			
Ginn & Co.	Jane Andrews	Each and All	50
Ed. Pub. Co.	Mara Pratt	Stories of China	27
Scribner	Drummond	Tropical Africa	67
General Literature—			
Houghton & Mifflin	Scudder	Classics for Children	30
" "	Longfellow	Courtship of Miles Standish	27
Porter & Coates	Stowe	Uncle Tom's Cabin	27
Ginn & Co.	Franklin	Poor Richard's Almanac	14
Total			$5 07

TEN-DOLLAR LIBRARY.—(24 books.)

Publisher.	Author.	Title.	Price.
Science—			
Ed. Pub. Co.	Mara Pratt	Little Flower Folks (2 Vols)	$0 60
" "	" "	Storyland of Stars	40
Am. Book Co.	Johonnot	Friends in Feathers and Fur	30
Macmillan	Kingsley	Water Babies	50
Lothrop	Dean	Little Folks Wonders	84
History and Biography—			
Ginn & Co.	Scott	Tales of a Grandfather	40
Ed. Pub. Co.	Mara Pratt	The Great West	30
Porter & Coates	Bartlett	Joan of Arc	27
" "	Brayman	Daring Deeds of American Heroes	27
Houghton & Mifflin	Holmes	Grandmother's Story of Bunker Hill	25
" "	Johonnot	Stories of Olden Times	54
" "	Hawthorne	Biographical Stories	15

Publisher.	Author.	Title.	Price.
Geography and Travel—			
Lee & Shepard	King	Methods and Aids in Geography	$1 00
Ginn & Co.	Ballou	Footprints of Travel	70
Ed. Pub. Co.	Mara Pratt	Stories of Australasia	36
" "	" "	" " India	36
" "	" "	" " China	27
General Literature—			
Houghton & Mifflin	Longfellow	Hiawatha (notes and vocab.)	40
" "	K. D. Wiggin	The Story Hour	80
Porter & Coates	Andersen	Fairy Tales	27
" "	Brayman	Thrilling Adventures on Land and Sea	27
" "	Bunce	Romance of the Revolution	27
Macmillan	Church	Stories of the Iliad	50
Total			$10 02

TEN-DOLLAR LIBRARY.—(24 books.)

Publisher.	Author.	Title.	Price.
Science—			
Am. Book Co.	Johonnot	Neighbors with Claws and Hoofs	$0 54
Houghton & Mifflin	Burroughs	Birds, Bees and Sharpeyes (Nos. 28 and 36, Classics for Children)	40
" "	Bamford	Up and Down the Brooks	60
Heath	Spear	Leaves and Flowers	25
Ed. Pub. Co.	Mara Pratt	Storyland of Stars	40
Appleton	Benjamin	The Multitudinous Seas	45
History and Biography—			
Am. Book Co.	Johonnot	Ten Great Events in History	54
" "	Eggleston	First Book in American History	60
Houghton & Mifflin	Scudder	George Washington	60
" "	Hawthorne	True Stories of New England History	15
Porter & Coates	Dickens	Child's History of England	27
" "	Laing	Conquests of the Seven Hills	27
Geography and Travel—			
Houghton & Mifflin	Higginson	Java, the Pearl of the East	60
" "	Ballou	Footprints of Travel	70
Ginn & Co.	Church	Stories of the Old World	40
" "	Jane Andrews	Seven Little Sisters	50
Ed. Pub. Co.	Mara Pratt	Stories of China	27
General Literature—			
Lee & Shepard	Eliot	Six Stories from Arabian Nights	25
Rand & McNally	Sewell	Black Beauty	75
Am. Book Co.	Scott	Lady of the Lake	30
Houghton & Mifflin	Hawthorne	Wonder Book	40
Ginn & Co.	Lamb	Tales from Shakespeare	40
Porter & Coates	Cooper	The Deerslayer	27
Ginn & Co.	Franklin	Poor Richard's Almanac	14
Total			$10 05

THIRTY-FIVE-DOLLAR LIBRARY.—(57 books.)

Publisher.	Author.	Title.	Price.
Science—			
Am. Book Co.	Johonnot	Some Curious Flyers, Creepers, and Swimmers	$0 40
" "	Hooker	Child's Book of Nature (3 vols. Water, Land and Air)	1 00
" "	McGuffey	Familiar Animals and Their Wild Kindred	50
Ed. Pub. Co.	Mara Pratt	Fairyland of Flowers	1 00
Macmillan	Kingsley	Water Babies	50
"	"	Madam How and Lady Why	50
"	Wilson	The Five Gateways of Knowledge	50
Appleton	Buckley	Fairyland of Science	1 00
Houghton & Mifflin	Greene	Coal and Coal Mines	60
Ginn & Co.	Jane Andrews	Stories Mother Nature Told	50
Crowell	Mrs. Cooper	Short Stories in Botany	67

Publisher.	Author.	Title.	Price.
History and Biography—			
Ed. Pub. Co.	Mara Pratt	Young Folks Library of Am. Hist.—	
		Cortez and Montezuma	$0 30
		Pizarro, or the Conquest of Peru	30
		The Great West	30
		Stories of Massachusetts	60
Am. Book Co.	Johonnot	Stories of Our Country	40
" "	"	Grandfather Stories	27
" "	"	Stories of Heroic Deeds	30
Estes & L.	Coffin	Following the Flag	1 25
" "	"	Boys of '61	1 75
Appleton	Butterworth	Boys of Greenaway Court (Story of Washington's Early Life)	1 00
Porter & Coates	Laing	Child's History of Rome—	
		Seven Kings of the Seven Hills	27
		Conquests of the Seven Hills	27
		Heroes of the Seven Hills	27
Porter & Coates	Dickens	Child's History of England	27
Crowell	Farmer	Girls Who Became Famous	1 00
"	"	Boys Who Became Famous	1 00
Geography and Travel—			
Estes & L.	Butterworth	Zigzag Journeys—	
		On the Mediterranean	1 50
		On the Mississippi	1 50
		In Europe	1 50
Ed. Pub. Co.	Mara Pratt	Stories of Australasia	36
" "	" "	Stories of India	36
" "	" "	Stories of China	27
General Literature—			
Houghton & Mifflin	Tennyson	Enoch Arden	53
" "	Longfellow	Evangeline (portrait, life, and notes)	25
" "	"	Hiawatha (notes and vocab.)	40
" "	Whittier	Snowbound	25
" "	Hawthorne	Tanglewood Tales	40
" "	K. D. Wiggin	Story of Patsy	50
" "	Larcom	New England Girlhood	60
Am. Book Co.	Scott	Lady of the Lake	30
Ginn & Co.	Lamb	Tales from Shakespeare	40
" "	Irving	Sketch Book	25
Dodd, Mead & Co.	Church	Stories from Homer	80
" " "	"	Stories from Vergil	80
Leach, Shewell & Sanborn	Hale	Stories for Children	35
Porter & Coates	Defoe	Robinson Crusoe	27
" "	Hughes	Tom Brown at Rugby	27
" "	Andersen	Fairy Tales	27
Roberts	Hale	The Man Without a Country	1 25
"	Ewing	Six to Sixteen	50
"	Alcott	Little Women	1 50
Scribner	Eggleston	The Hoosier School Boy	50
Houghton & Mifflin		Masterpieces of American Literature	1 00
Century Co.		World's Fair Book for Boys and Girls (ill.)	1 50
Total			$35 10

FIFTY-DOLLAR LIBRARY.—(79 books.)

Publisher.	Author.	Title.	Price.
Science—			
Am. Book Co.	Gray	How Plants Grow	$0 80
Ed. Pub. Co.	Mara Pratt	Storyland of Stars	40
" "	" "	Little Flower Folks	30
Appleton	Buckley	Life and Her Children	1 00
"	Hutchinson	Autobiography of the Earth	1 00
Lothrop	Beach	Wonder Stories of Science	63
Houghton & Mifflin	Burroughs	Birds, Bees, and Sharpeyes (10 vols)	3 60
Ginn & Co.	Jane Andrews	Stories Mother Nature Told	50
Estes & L.	Richards	Four Feet, Two Feet, and No Feet	1 75
Roberts	Hale	Stories of Invention	1 00

Publisher.	Author.	Title.	Price.
History and Biography—			
Am. Book Co.	Eggleston	First Book in American History	$0 60
" "	Johonnot	Ten Great Events in History	54
Lee & Shepard	Frost	Lives of the Presidents	90
" "	Higginson	Young Folks History of the United States	83
Ed. Pub. Co.	Mara Pratt	Story of Columbus	40
" "	" "	American History Stories (4 vols.)	1 44
Dodd, Mead & Co.	Abbott	Blue Jackets of 1812	1 60
Crowell	Farmer	Girl's Book of Famous Queens	1 00
"	"	Boy's Book of Famous Rulers	1 00
Porter & Coates	Laing	Child's History of Rome—	
		Seven Kings of the Seven Hills	27
		Conquests of the Seven Hills	27
		Heroes of the Seven Hills	27
Houghton & Mifflin	Scudder	George Washington	60
" "	Hawthorne	Biographical Stories	15
" "	Holmes	Grandmother's Story of Bunker Hill	25
Ginn & Co.	Jane Andrews	Ten Boys Who Lived on the Road, etc.	50
Macmillan	Kingsley	Westward Ho!	50
Roberts Bros.	Hale	Stories of Discovery	1 00
Estes & L.	Coffin	Boys of '61	1 75
" "	"	Winning His Way	1 25
Harper & Bros.	"	Boys of '76	2 40
Porter & Coates	Harrison	Battles of the Republic	27
Geography and Travel—			
Houghton & Mifflin	Higginson	Java, the Pearl of the East	60
" "	Anderson	Pictures of Travel	80
Ed. Pub. Co.	Mara Pratt	Stories of Australasia	36
" "	" "	Stories of India	36
" "	" "	Stories of China	27
Scribner	Drummond	Tropical Africa	67
Estes & L.	Coffin	Our New Way Around the World	1 75
" "	Butterworth	Zigzag Journeys in the Occident	1 50
Ginn & Co.	Jane Andrews	Seven Little Sisters	50
" "	" "	Seven Little Sisters Prove Their Sisterhood	50
" "	Church	Stories of the Old World	40
General Literature—			
Houghton & Mifflin	Whittier	Child-life in Poetry	1 60
" "	Longfellow	Evangeline (portrait, life, and notes)	25
" "	Scudder	Fables and Folk Stories	40
" "	Hawthorne	Twice-told Tales	32
Ginn & Co.	Lamb	Tales from Shakespeare	40
" "	Irving	Sketch Book	25
Macmillan	Church	Stories of the Iliad	50
"	"	Stories of the Odyssey	50
Porter & Coates	Ballantyne	Shifting Winds	27
" "	Hughes	Tom Brown at Rugby	27
" "	Stowe	Uncle Tom's Cabin	27
" "	Dickens	Child's History of England	27
" "	Lytton	Last Days of Pompeii	27
" "	Scott	Ivanhoe	27
" "	Meredith	Lucile	27
" "	Bruce	Romance of the Revolution	27
Century Co.	Cox	The Brownie Book	1 50
Scribner	Burnett	Little Lord Fauntleroy	1 34
Lee & Shepard	Froebel	Mother Plays	1 25
Rand & McNally	Sewell	Black Beauty	75
Harper & Bros.	Wallace	Ben Hur	1 20
Ed. Pub. Co.	Chase & Clow	Stories of Industry (2 vols.)	80
" "	Aesop	Fables	30
Total			$50 03

The following is a supplemental list comprising two series of books which would make a valuable addition to any school library, but which could not all be included in our lists on account of expense:

Butterworth's Zizzag Journeys, published by Estes & Lauriat, each $1.50.

Journeys on the Mediterranean.
" " " Mississippi.
" in Australia.
" in the Great Northwest.
" " " British Isles.
" " " Antipodes.
" " " Sunny South.
" " " Levant.
" " " Acadia and New France.
" " " Occident.
" " " Orient.
" " " India.
" " " Northern Lands.
" " " Classic Lands.
" " " Europe.

Coffin's Works, published by Harper & Brothers, each $2.40.

Drum-beat of the Nation (First period of Civil War).
Marching to Victory (Second Period of Civil War).
Redeeming the Republic (Third Period of Civil War).
Boys of '76.
Abraham Lincoln.
Building of a Nation.
The Story of Liberty.
Old Times in the Colonies.

TEACHERS' LIST.

From the numerous good books filled with suggestive thoughts and methods for development along the lines of pedagogical science, the following have been selected as among the best:

Publisher.	Author.	Title.	Price.
Am. Book Co.	Swett	Methods of Teaching	$ 80
" "	White	Elements of Pedagogy	80
" "	Hailman	Primary Methods	60
D. C. Heath	Lange	Apperception	80
" "	Compayre	Lectures on Pedagogy	1 40
" "	Pestalozzi	Leonard and Gertrude	70
D. Appleton & Co.	Boone	Education in the United States	1 15
" "	Sully	Teacher's Handbook of Psychology	1 15
" "	Preyer	Infant Mind	75
" "	Froebel	Education of Man	1 15
" "	Quick	Educational Reforms	1 15
" "	Rosenkranz	Philosophy of Education	1 15
" "	Page	Theory and Practice of Teaching	75
" "	Hinsdale	How to Teach and Study History	1 15
" "	Parker	How to Study Geography	1 15
" "	Spencer	Education	95

ADDRESS OF PUBLISHERS.

Houghton & Mifflin, 4 Park St., Boston, Mass., or 21, Lakeside Blds., Chicago.
Porter & Coates, 9th and Chestnut Sts., Philadelphia, Penn.
Ginn & Co., Boston, Mass., or 355-361 Wabash Ave., Chicago, Ill.
American Book Co., 521-531 Wabash Ave., Chicago, Ill.
Harper & Brothers, Franklin Sq., N. Y. City.
Lee & Shepard, 10 Milk St., Boston, Mass.
Ed. Pub. Co., 50 Bromfield St., Boston, Mass.
Estes & Lauriat, 301-305 Wash. St., Boston, Mass.
D. Lothrop Co., 364-366 Wash. St., Boston, Mass.
Dodd, Mead & Co., 5 East 19th St., N. Y. City.

Roberts Brothers Publishing Co., Boston, Mass.
T. Y. Crowell & Co., 46 East 14th St., (Union Sq.) N. Y. City.
Macmillan & Co., 66 Fifth Ave., N. Y. City.
D. Appleton & Co., 1, 3 and 5 Bond St., N. Y. City.
Chas. Scribner's Sons, 743–745 Broadway, N. Y. City.
Century Co., 33 East 17th St., (Union Sq.) N. Y. City.
Leach, Shewell & Sanborn, 106–108 Wabash Ave., Chicago, Ill.
D. C. Heath & Co., 355 Wabash Ave., Chicago, Ill.
Rand & McNally, Chicago, Ill.
Hurst & Co., N. Y. City.
G. P. Putnam's Sons, N. Y. City.

THE TOWNSHIP UNIT SYSTEM.

The experience of the year in visiting all portions of the State and endeavoring to interest school officers in school questions; the scores and scores of petty district quarrels in which the superintendent has been asked to take a hand; the inequalities in educational advantages endured by pupils in different disrticts, have all tended to strengthen our belief in the township district.

The general features of the plan have been outlined in previous reports, and we shall not take the space to reproduce them here. Those who desire a more extended explanation of the system can receive a pamphlet containing it by sending a request to this department.

VERTICAL WRITING.

We shall take no space here to argue the pros and cons of this question which is now before the public; but we wish to urge our teachers not to change front too quickly. Let the experts and practice schools first give the new system a good trial. We fear that one result of the discussion will be a complete unsettling of all system, and that the mixture of systems by first one teacher and then another will result in a woeful mixture from which no good can come. The burden of proof is on the side of the vertical writing advocates, and until they convince us beyond a doubt that this plan is more legible, easier to learn, capable of greater rapidity in writing, and is all round better than the present system; the teachers of our common schools, where experts are not employed, should still teach the slant hand and muscular movement.

SCIENCE IN PRIMARY GRADES.

Among the important reforms now being agitated is the one looking toward introducing some elementary science into the primary grades of schools. It is argued quite cogently that pupils may be led to study the phenomena about them; may learn to observe carefully, to compare, to classify, and to describe with accuracy. It is claimed that this work can be done in connection with language, geography and reading.

There will of course be many failures in the attempts, but the most frequent cause of failure will come from those who attempt to teach what they do not know. The teacher who thinks of teaching elementary science to primary pupils must not think that her knowledge of the science can be crude and elementary. The discipline of the work will be largely lost if pupils are given the science lessons from books and learn the science by committing to memory a few interesting but isolated facts, and learning to pronounce and possibly spell some ponderous polysyllables.

One good thing sure to come from the movement is the emphasizing of the fact that the education of the primary teacher must reach beyond the narrow limits hitherto set for it by many; and the people will awake to the fact that the old saying is fatally false which held "that anybody can teach the little folks."

COMMITTEE OF TEN.

One of the most remarkable educational documents ever issued in this country is that known as the "Report of the Committee of Ten." This committee and its conferences were authorized and established by the National Educational Association for the purpose of unifying and suggesting changes in the work of secondary schools.

I wish every teacher of the State could make a study of this report. Some of the principal suggestions may be summed up as follows:

The Latin Conference declares that, "In view of the just demand for more and better work in several other subjects of the preparatory course, no increase in the quantity of Latin preparation should be asked for."

The Greek Conference desires that the average age at which pupils now enter college should be lowered rather than raised, and that no addition be made in the advanced requirements in Greek for admission to college.

The Mathematical Conference recommends that the course in arithmetic, in elementary schools, be abridged and recommends only a moderate assignment of time to algebra and geometry.

The Conference on Geography thinks that too much time is given to that subject in proportion to the results secured. Not that more time is given to the subject than it deserves, but that more should be accomplished or less time taken to attain it.

All these bodies of experts desire to have the elements of their several subjects taught earlier than they now are; and the conference on all the subjects except the languages desire to have given in the elementary schools what may be called perspective views, or broad surveys of their respective subjects, expecting that in later years of the school course parts of these same subjects will be taken up with more amplitude and detail.

The Conferences on Latin, Greek, and the Modern Languages agree in desiring to have the study of the foreign languages begin at a much earlier age than now.

The Conference on Mathematics wish to have given in elementary schools not only a general survey of arithmetic, but also the elements of algebra, and concrete geometry in connection with drawing.

The Conference on Physics, Chemistry, and Astronomy urge that nature studies should constitute an important part of the sch from the very beginning.

The Conference on Natural History wish the elements of l zoölogy to be taught in the primary schools.

The Conference on History wish the systematic study of begin as early as the tenth year of age, and the first two years o be devoted to mythology and to biography for the illustration o history as well as of American history.

The Conference on Geography recomm hat the earlier treat broadly of the earth, its environmen abitants, ex freely into fields which in later years are longing t ate sciences.

All the Conferences agree that the subjects should be correlated and associated one with another by the program and by the actual teaching.

It is also urged by the Committee and all the Conferences that every subject which is taught at all in a seecondary school should be taught in the same way and to the same extent to every pupil so long as he pursues it. No matter what the probable destination of the pupil may be, or at what point his education is to cease.

Great stress is laid on the necessity of more highly trained teachers in both elementary and secondary schools. It is frequently stated that a higher grade of scholarship is needed in teachers of the lower classes.

It is thought inexpedient to introduce two foreign languages in the same year; all insist on practice in reading a foreign language aloud, and on the use of good English in translating.

Laboratory work in the sciences is considered by all odds best.

No satisfactory summary of the results of the Conferences can be given within the limits of this report, but it is hoped that enough has been said to lead every teacher and many of our school officers to make a careful study of the entire work of the committee and the conferences.

It may well be made the basis of work in the teachers' meetings of the year.

OLD GLORY.

Thousands of Michigan schools now float our country's flag. A sight that never fails to cheer the heart, brighten the eye, and thrill the soul of the loyal American, is to see the folds of our banner waving proudly above the schools, and the group of girls and boys taking advantage of the chance offered to them so liberally here in our own dear America. The district schools are not behind in this excellent movement, but hundreds and hundreds of them now glory in the stars and stripes.

Not only should each school have a large flag to fling to the breeze on every day memorable in our history, but on the walls of every school room there should be found smaller flags or colored sketches of flags on the boards.

But should our patriotism end with this, we would be no better than the heathen bowing to his idol. Let the lessons of the flag be taught appropriately to every grade.

The great names of our country should be as familiar to our youth as are the nursery rhymes. The youngest pupils can be taught lessons of truthfulness, honesty, perseverence, bravery, courage, devotion, honor, from many a name and deed found in American annals.

Lead pupils to love the flag for what it signifies; for its history; for the protection it affords the citizen fortunate enough to be born beneath its heaven-born hues; for the chance it offers to every honest, ambitious, pure-hearted girl or boy.

Every pupil of the schools of Michigan should commit to memory both words and music of "America," "Star Spangled Banner" and "Red, White and Blue." Patriotic selections should be learned and recited in every grade. Before pupils can read they should be taught some simple patriotic lines; and at each successive step of the school course, the pupil should be inspired by the patriotic prose and poetry of our literature. 'The Cumberland," "Paul Revere's Ride," "Ship of State," "Barbara Fritchie," "Nathan Hale," "Warren's Address," and Drake's "American

Flag," should be required of pupils just as strictly as any part of the curriculum.

This patriotic spirit aroused, the youth should be taught his duties to country, and led to see in what way he best serves under so glorious a flag. He should be taught to respect the rights of others; to obey cheerfully well-constituted authority; to do his duty as a citizen, fearlessly, honestly and intelligently; that he should have but one standard of morals for both private and public life, and that a high and noble one.

Are we asking too much? Anything short of this cheats the State, which pays its funds, not merely that its citizens shall be smart, not merely that they shall be pious, but that they shall know what is right, and that they shall have the will to do as well as they know.

SCHOOL GROUNDS.

In journeying about the State one is very forcibly reminded of the great difference in the tastes of people concerning the decoration of school grounds. In many cities and villages the school buildings and the school premises make the most attractive square in the place, while in others—very few, we are happy to say—there seems to have been very little done in the line of decoration. In some of these the school house stands on a bleak and barren lot, with not the sign of a shrub or tree to relieve the bold outlines or afford comforting shade in summer.

It is, however, in the country districts that we find the greatest amount of neglect in this particular. Few, proportionately, are the districts that seem to have the slightest regard for the looks of the school grounds. Oft-times in the selection of a site there has been no attention paid to the health, comfort, and happiness of the pupils. Tumbled down fences, entire absence of shade trees, slovenly wood piles, disreputable out buildings are too often the characteristics of the school premises in districts that are supposedly christian in their civilization and progressive in their tendencies.

Although Arbor Day has been very frequently observed by the schools, its influences have not been felt yet in a large number of the country districts. There should be an attempt made at once to arouse public sentiment on this subject, and we appeal to the county school commissioner to aid us in the work. Let trees be set out, climbing vines placed near the buildings, and, where possible, let flowers be planted. All these are civilizing factors and help to make better citizens of the girls and boys in our schools. The interior adornments of the school room should also receive careful attention. By very little effort, and at small expense, fine engravings of our famous statesmen, soldiers, and literary men [illegible] procured with which to adorn the walls of the school room, and [illegible] to educate the children.

Let us set apart a day for the special purpose of securi[illegible] creating sentiment for school room decorations. Let school [illegible] and kalsomine the rooms, and teachers and pupils secure goo[illegible] of our famous men and women to adorn the walls. Wind[illegible] stencil blackboard borders, flags and many other tasty decora[illegible] provided at little expense, but which ter[illegible]levate the tone o[illegible] educate to a finer taste these future ci[illegible]nake the sch[illegible] cheery and attractive as any home. Th[illegible]lent of Pul[illegible]

tion will designate a day for school house decoration to be observed in all schools, and hopes for the hearty coöperation of teachers, patrons, pupils and officers.

SCHOOL ARCHITECTURE.

This century shows gratifying progress in nearly everything, save school house architecture. Can't we move forward a step or two in this direction?

With this in view we are, through the kindness and study of a wide-awake young architect, Earl H. Mead, of Lansing, able to give sketches of several school buildings that may be built at but little more expense than the regulation, rectangular, non-ventilated, inconvenient rural school houses of today.

In planning these buildings the architect has had in mind what every board should insist upon, viz.: good lighting and good ventilation. Besides these two great essentials there are many little accessaries that make no extra expense, but render the building a thousand fold more convenient and comfortable. It is usually best to secure details of the plans from the architect, for the guidance of the builder, and to insure satisfaction. Architects, however, frequently overlook many things which to the teachers are of vital importance. We give herewith some miscellaneous suggestions which should be carefully considered by those about to build school houses.

1. The window lighting surface should equal one-fifth of the floor surface.
2. No pupil should sit further from the window than two and one-half times the distance from the floor to the top of the window.
3. The window should extend to the ceiling, only leaving enough room for the casing between the opening and the ceiling.
4. The windows should be grouped.
5. Light is better from both sides than from one side and the back. The light at the back, unless high, will cast the pupil's shadow on his work.
6. There should be no windows for pupils to face.
7. Light from one side should be from the left, so as not to throw the shadow of the pupil's hand upon his work.
8. The windows should be provided with green shades, yellow is not as good for the eyes.
9. The black-boards should not have a glossy surface.
10. If windows are grouped as they should be and as they are in the accompanying sketches, *no black-boards come between windows* to try the eyes of the pupils.

HEATING AND VENTILATING.

1. A wood furnace is the cheapest and best means of heating small school houses where wood is abundant. The furnace heats and ventilates and will burn long wood, knots, branches, etc., that cannot be used in a stove.

2. A jacketed stove is the next best heater and ventilator. A round, tall stove should be encased by a sheet-iron jacket, the jacket being placed four or six inches from the stove. The jacket should reach within two inches of the floor, and extend to top of stove. Air conductors 6x12 inches should lead from the wall on two opposite sides of the school house under

the floor, and open into a register immediately under the stove. This furnishes fresh air. Dampers can be placed in these ducts to regulate the amount of fresh air. A good stove and jacket can be bought for $25 or $40.

3. The chimney should extend to the ground, and contain a flue two feet square, with either a brick partition dividing it into two parts, or an eight-inch chimney tile for smoke flue. This smoke flue warms the shaft, creates a current upward, and thus the impure air of the room may be drawn off.

4. Flues built into walls without provision for warming them are merely monuments to fools.

5. Place a large register in the room at base of chimney, and also one in the chimney near the ceiling. Let both be provided with valves with which to close them when necessary.

6. Place a ventilator in ceiling of room near the center, opening into the attic.

7. Hang windows with cords and weights if possible, or at least make them easy of movement, and supplied with easy catches at lifts of short intervals. Place a 5-inch board under lower sash of window, just as long as window is wide. This will create a space between upper and lower sash, through which the air can come in without direct draft on pupils.

8. Occasionally open doors and windows, and let the air change while pupils are marching or exercising.

MISCELLANEOUS.

1. Wardrobes for country schools are better made of wainscoting six or eight feet high, at both sides of entrance door, in the school room. Those old entries are great breeders of disorder.

2. The girls and boys should have separate wardrobes.

3. *The teacher's desk should be in the opposite end of the room from the entrance.*

4. The end of the room opposite the entrance should have no windows.

5. The blackboard should extend across the end of the room back of the teacher's desk and down each side to the windows. It will do no harm to run the black-board the length of both sides as well as one end.

6. If necessary stand over the builder with a club to make him put the black boards low enough for the little people. The side boards should be within two feet of the floor and made four feet wide. The end board should be six feet wide.

7. The floor should be of narrow and well seasoned maple. Don't put in a soft wood floor.

8. Provide a neat woodbox if no fuel room is given.

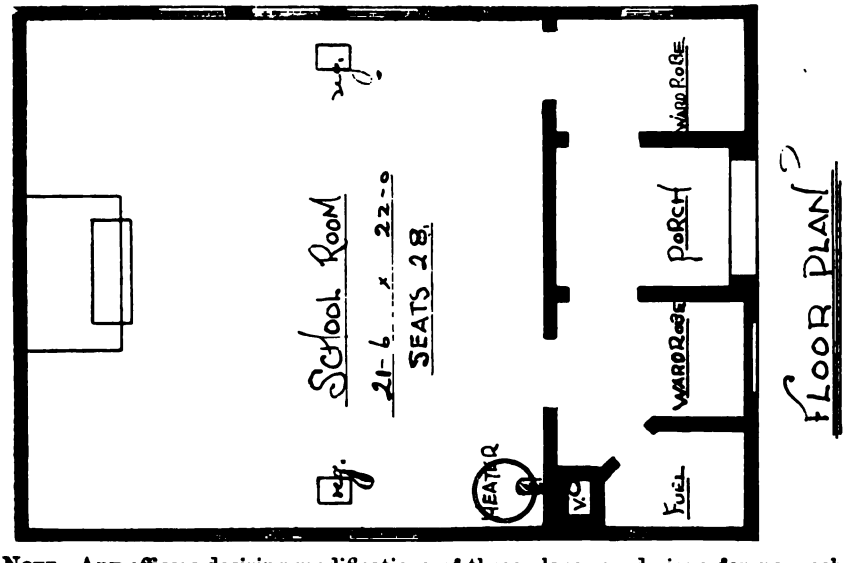
9. Provide at least one extra chair for stray visitors.

10. There should be an average of 16 square feet of floor space to each pupil. A little increase in the dimensions of the building does not add materially to the expense, but adds much to health and comfort of pupils.

Any of the one-room buildings represented on the succeeding pages may be built for from $600 to $1,000. The two-room buildings may be built for $1,000 to $1,600 and the three-room building should not cost more than $3,000. Designs are furnished with a view to cheapness, convenience and durability, taking into consideration the principles on h lighting and ventilating given in this report.

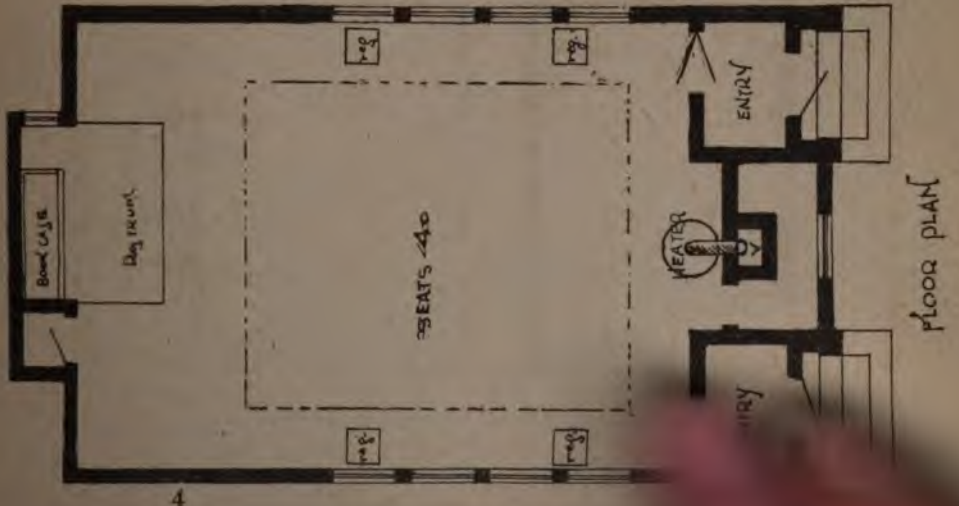
PLANS OF SCHOOL HOUSES.

(Designed by Earl H. Mead, Architect, Lansing, Mich.)

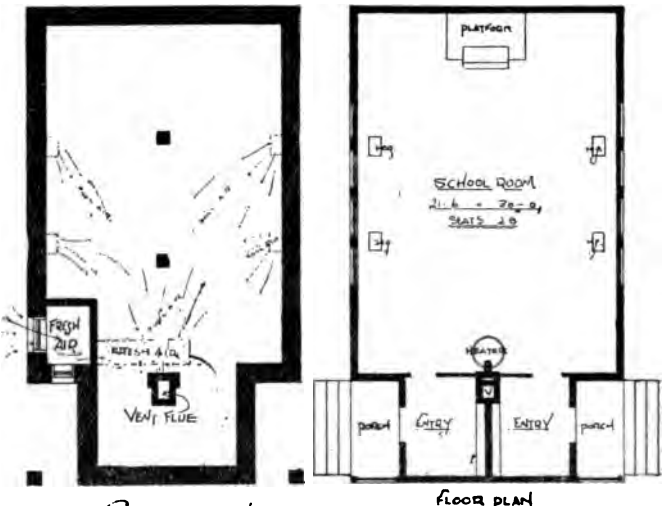


NOTE—Any officers desiring modifications of these plans, or designs for new school houses, of any size, or who wish detailed drawings or specifications of any plans given here, are invited to communicate with the arthitect, Earl H. Mead, Lansing, Mich.

CARL H. MEAD - ARCHITECT

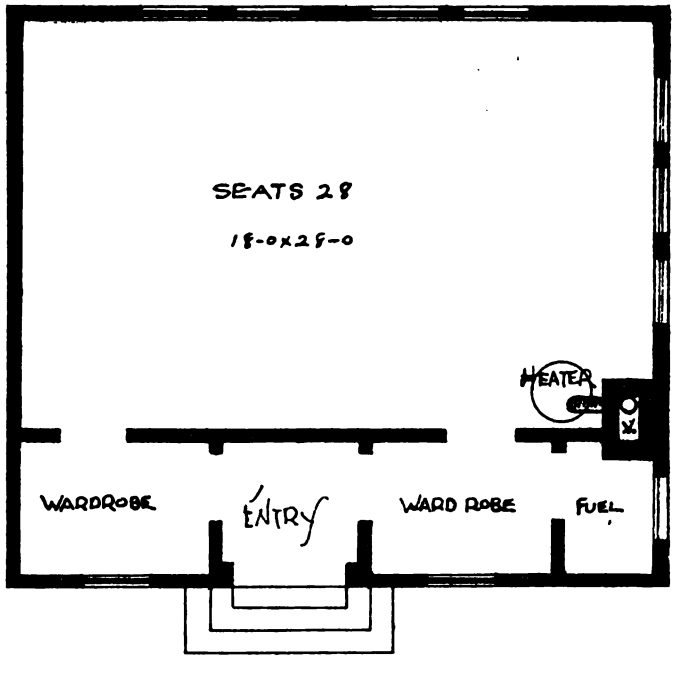

BOOK CASE
BOOK SHELF
SEATS 40
HEATER
ENTRY
FLOOR PLAN

4

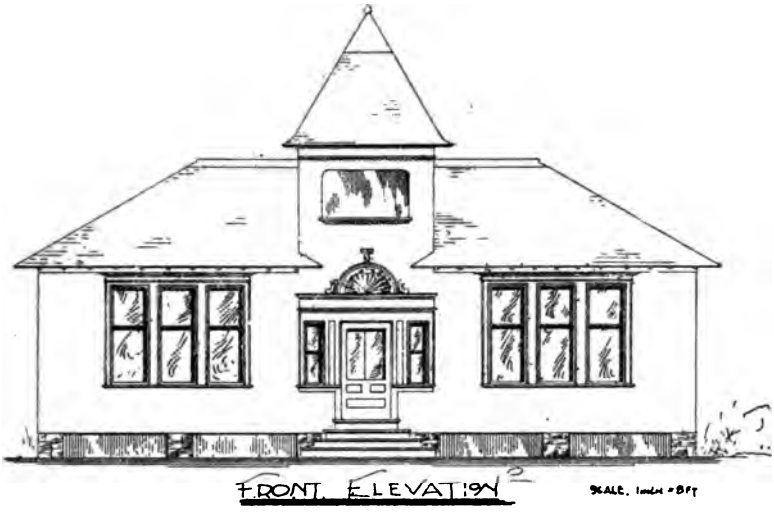


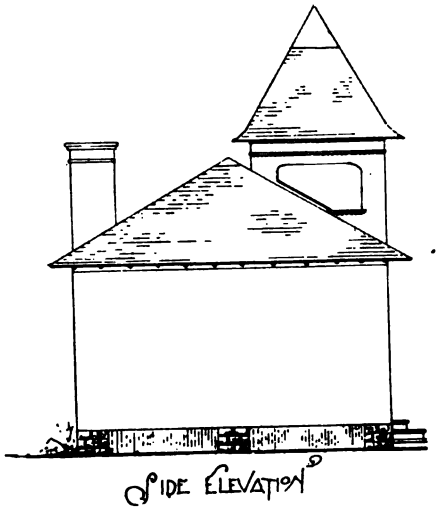
FOUNDATION PLAN

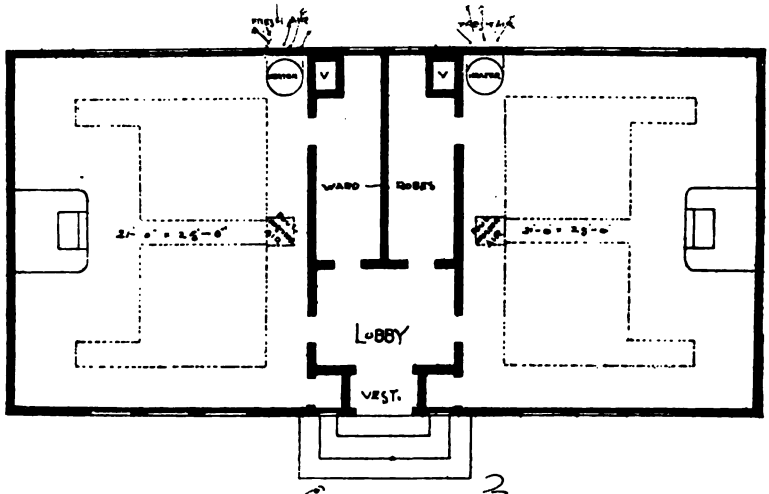
FLOOR PLAN



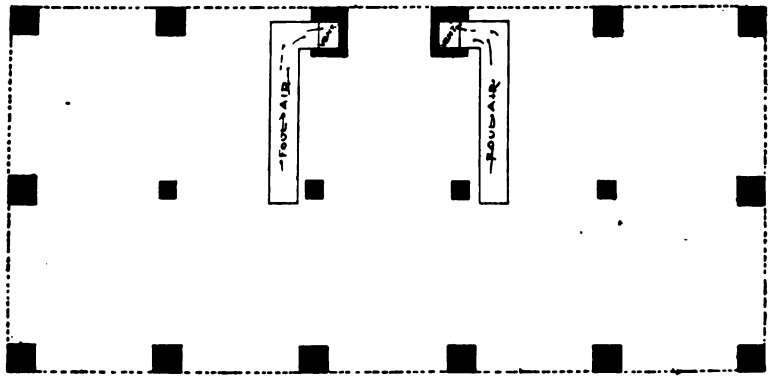
- FLOOR PLAN -


FRONT ELEVATION
SCALE. 1inch = 8FT


SIDE ELEVATION

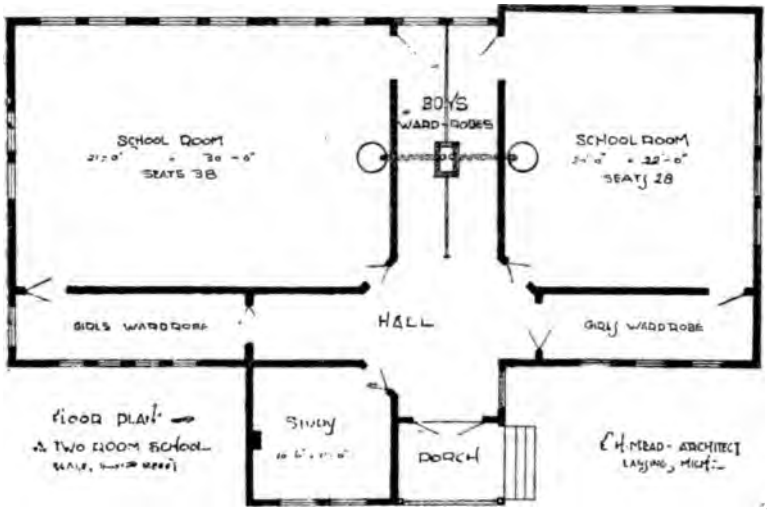


FLOOR PLAN 2

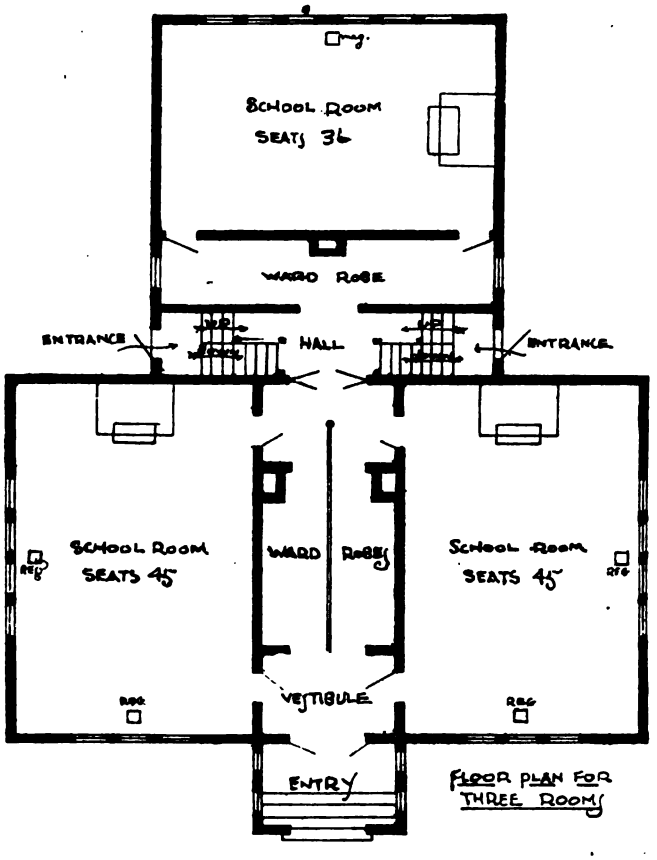


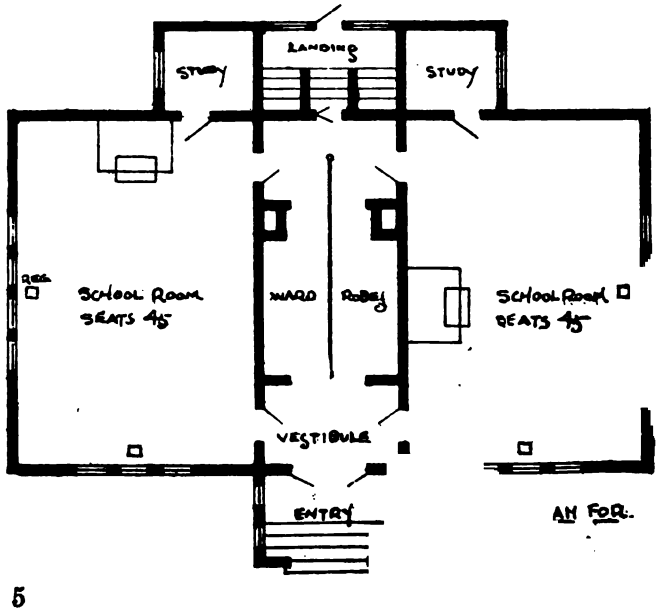
FOUNDATION PLAN 2

A TWO ROOM SCHOOL HOUSE
EARL H. MEAD Architect

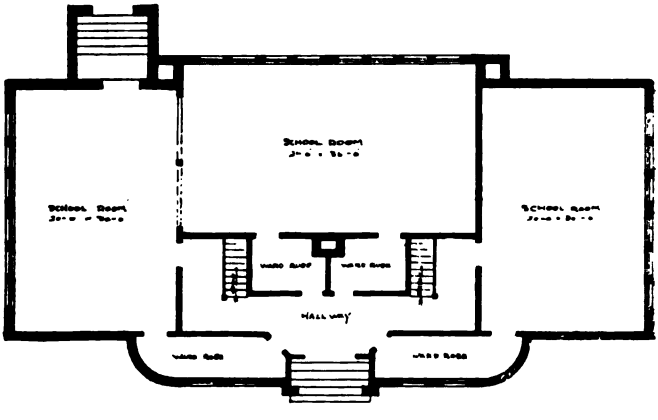

BOYS
WARD-ROBES
SCHOOL ROOM
SEATS 38
SCHOOL ROOM
SEATS 28
HALL
GIRLS WARDROBE
GIRLS WARDROBE
PORCH
C.H. MEAD - ARCHITECT

EARL H. MEAD - Architect
Longmont, Colo.


SCHOOL ROOM
SEATS 36
WARD ROBE
ENTRANCE
HALL
ENTRANCE
SCHOOL ROOM
SEATS 45
WARD
ROBES
SCHOOL ROOM
SEATS 45
VESTIBULE
ENTRY
FLOOR PLAN FOR
THREE ROOMS

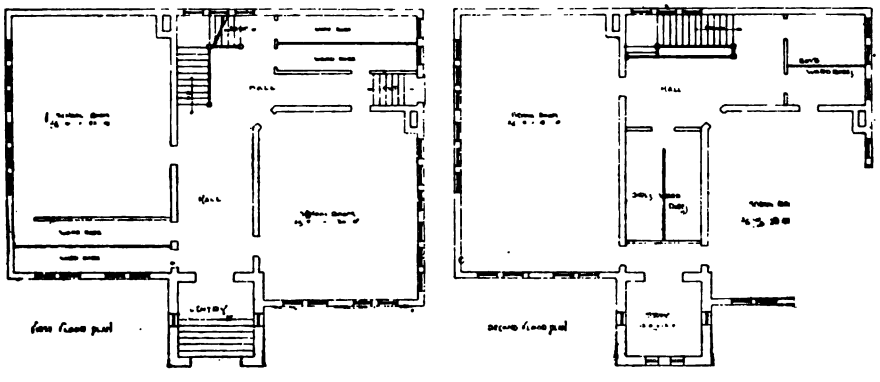

LANDING
STUDY
STUDY
SCHOOL ROOM
SEATS 45
WARD
ROBES
SCHOOL ROOM
SEATS 45
VESTIBULE
ENTRY
AN FOR.

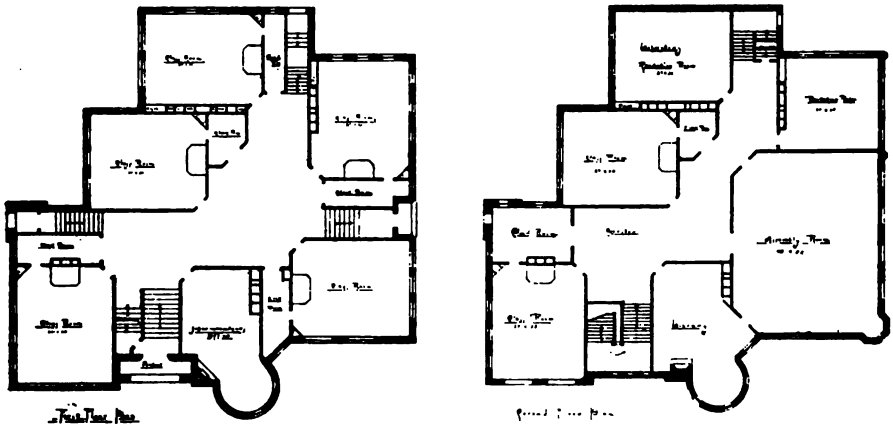
A THREE ROOM BRICK SCHOOL HOUSE.
E. H. MEAD, ARCHITECT, LANSING, MICH.



PLAN FOR A THREE ROOM BRICK SCHOOL HOUSE.

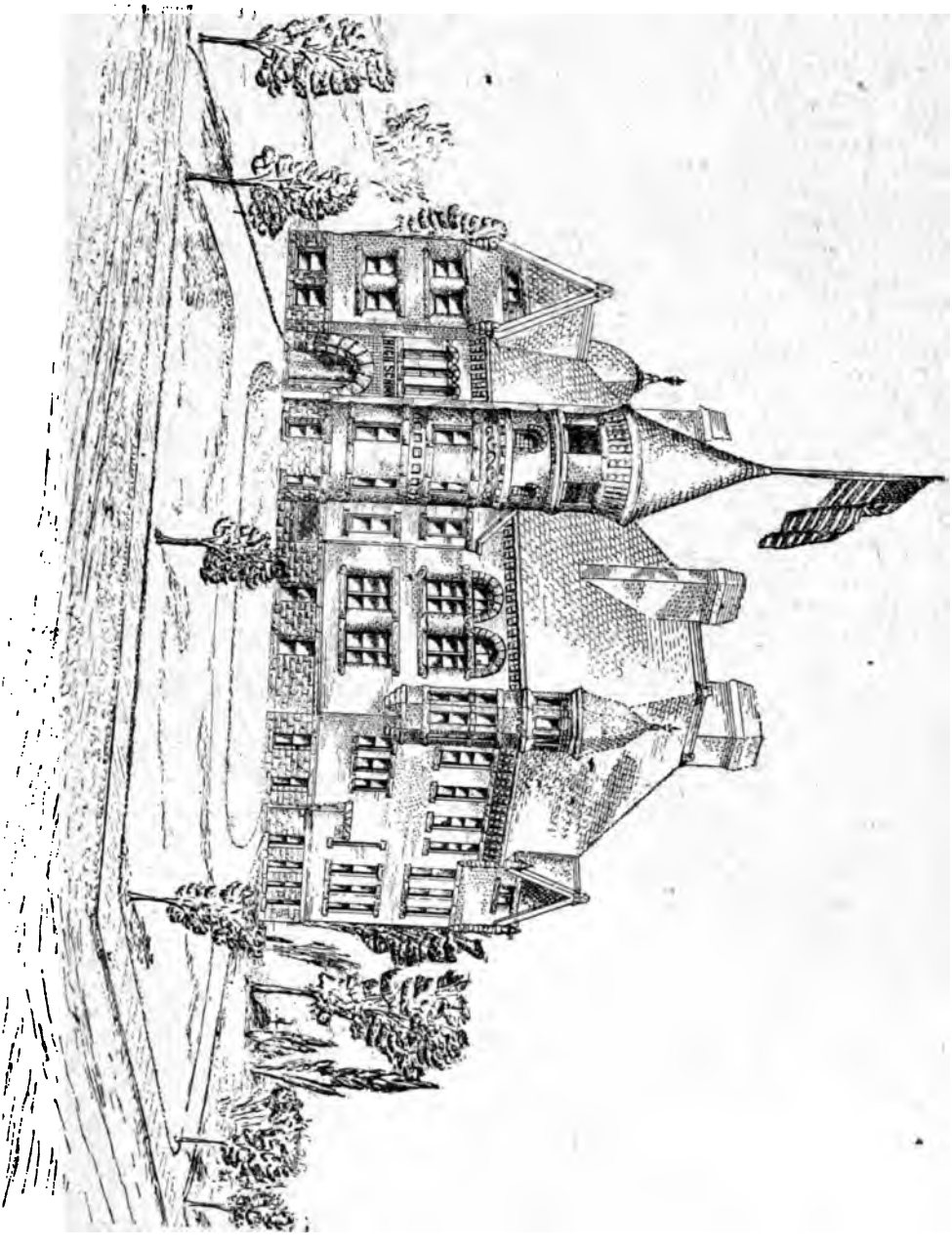
EARL H. MEAD ARCHITECT





For perspective of building see opposite page.

High School Building, Iron Mountain, Mich. This building is 107 x 113 feet outside measurement. The basement and walls of the entire structure are of Amberg granite. The facings of the basement walls, and all trimmings are of red and the body of the superstructure is of blue granite. The partition walls throughout are of brick, the floors of vestibules of tile, other floors of maple. The wood finish is of natural red oak. Light in ample quantities into each room from the rear and left of pupils. The warming and ventilating is done by the Hess system. The contract for the entire structure was let for $36,400.



SCHOOL OUTHOUSES.

An entire volume might be written on the topic of school outhouses. Conversation with nearly every school commissioner of the State, with many teachers and school officers, has compelled us to believe that the condition of these buildings in the average country district and in too many villages, is deplorable indeed.

They are frequently very inadequate in size, injudiciously located, shabbily constructed, horribly kept, shamefully marked with obscene characters and writing, seething with vileness, abounding in filth. They stand as damning evidences of the carelessness and criminal negligence of somebody. The civilization of the most debased tribe of Darkest Africa can show no condition of affairs worse than are these surroundings of the schools where so many of our future citizens are receiving their education.

O fathers and mothers! Think of the lasting impressions made on youthful minds; think of the characters formed and forming by these degrading object lessons.

This phase of the subject would seem sufficient to arouse every person who has in his breast a pure thought, or who wishes his country well; but there are other reasons why the reform in this direction should be immediate and thorough. We refer to the health of our children. Thanks to the vigorous and intelligent labors of boards of health, our people are coming to see more clearly the necessity of cleanliness. Even the most narrow minded are learning the lesson that a few cents saved in preventing disease, is far more economical than spending large sums of money and valuable time in curing the disease that comes as the result of negligence, and from the stupid violation of the most simple rules.

Danger to health along this line comes from two causes, viz.: the germs that spread from the filthy condition of the outbuildings, and the foundation of disease laid by the pupil's refraining too long from attending to the calls of nature. This later because of the dread in sensitive natures either of the cold and the dampness, the mud, snow, or rain, the publicity, or more frequently the sickening and loathsome surroundings. These are not pleasant things to say, but the crusade must be preached, the pupils must be saved, the reforms must be made.

Who is responsible for the conditions referred to above? What remedy can be suggested?

In the first place it is often true that the buildings when first constructed are not large enough, not built securely enough, not situated in convenient or proper places. In some barbarous districts, one outhouse serves for both girls and boys; in semicivilized districts the two compartments are under one roof separated by thin board partitions, no walk leading to the buildings, no doors or screen hedges or fences. Beside faults in construction and location there is the equally reprehensible practice of some boards in paying no attention to the care of these buildings, but permitting them to become dilapidated, filthy, and covered with obscenity. Some school officers are alert to their duties in this respect, and at least annually see that the buildings are put in good shape, but too many of the officers not only do not inspect the outbuildings but when the foul condition of the same is called to their attention, they say: "Oh, there's no use trying to keep them clean," or, "They're just as good as they were when we were boys." Persistent pleading by the teacher, good advice by the county com-

missioner sometimes avail, but usually nothing disturbs the callous serenity of ye officers, and the buildings remain to degrade the morals, shock the sensibilities, impair the health, and advertise the degrading negligence or close fisted parsimony of the district. What is the remedy?

First let proper buildings be made and properly located. The size of the buildings should of course be adapted to the size of the school; but while building, it costs but little more to make the buildings ample in their dimensions. No building of this sort should be smaller than 10x12 feet. If both sexes are to occupy one building it should be divided by a solid partition, matched boards and lath and plaster on each side of two by four studding. A tight board fence six feet high should extend from the back of the school house to the center of such double building, or if buildings are separate, such a fence should join the two buildings, and the fence from the school house should join this fence.

Brick is the best material of which to build the outhouses; but if this is impractible, let there be at least a strong frame which may be securely fastened down to deeply planted posts. A sheeting of boards should be placed over the studding before the clap-boards are put on.

Each of these buildings should be provided with strong movable drawers or boxes, so arranged that when filled they may be hauled away and the contents removed. This arrangement would cost but a mere trifle, and by means of it and the use of ashes and dust, the outhouse would cease to be a breeder of disease, and a contaminator of the atmosphere surrounding the school.

In connection with the boys' outhouses there should be a tight board fence six feet high, starting at the back corner of the outhouse farthest from the door, and extending out from the outhouse eight feet, thence parallel to the building, extend the fence four feet further than the building itself, thence turn at right angles and extend the fence to a line even with the back of the building. Within this enclosure let a trough be attached to the back of the outbuilding, and another, a lower one, attached to the inside of the end fence farthest from the entrance. Let this trough be properly inclined, and if the soil is of such a nature that it will become muddy, let a floor be laid or at least a walk be made within the enclosure so that there will be no obstacle to the use of it as a water closet. It will be found that this arrangement will do much toward keeping the outbuildings in good condition.

Let all the outbuildings be painted inside and out, and while the paint is fresh let a quantity of fine sand be blown on, thus giving a surface so rough that it offers very poor opportunity for the obscene marking of the walls.

We hope the time will come when in connection with the country school house there shall be built a wing divided into two rooms opening into the school-room. In the back part of these rooms could be placed the closets provided with dry-earth boxes and drawers. Other portions of the rooms could be used as woodshed, store-room, and work-shop. This would solve the problem of the location and care of the closets. In snow or rain, in damp or cold, these necessaries would be accessible, and no timidity of sensitive pupils would stand in the way of visiting the closets. However, this extra room will not be built save by some few progressive districts; but can we not confidently hope that the average district may attempt to make a good walk to its outbuildings, and to screen the same from public

gaze by a hedge of evergreens, or at least clumps of trees or lilacs? This will also add materially to the looks of the school grounds.

It is the desire of the State Superintendent that county school commissioners and teachers take careful cognizance of this matter, and make a united effort to revolutionize public sentiment in this direction. Teachers should take special pains to attend to the disagreeable duty of caring for the surroundings of the school. Lead pupils to think more carefully concerning the care of the school grounds. Develop manly and womanly thoughts, and build up a school sentiment in favor of the proper keeping of the outhouses.

Thus far we have suggested merely voluntary care of these buildings; but cases have this year come to our attention where the officers refuse to pay any attention to the condition of the outhouses, although repeatedly urged to build or repair or clean the horrible blotches that disgrace their grounds. In one instance no outhouse at all was provided, and requests to build one were ignored. In another instance where but one small building with but one apartment was used by both sexes, the officers refused to provide anything better. Numerous instances are reported where officers pay no attention whatever to requests made asking them to clean and repair outhouses in order to make them fit for use. There is now no authority that appears able to compel these dilatory and negligent officials to remedy the evils. There should be a law which would give to the county school commissioner the power to cause the necessary repairs to be made or new buildings constructed, if, after due and timely notice, the officers make no move. The cost of building, repairing, or renovating such buildings should be spread on the tax roll for the district property owners to pay. It might be advisable to enact a law directly and specifically aimed at the obscene marking or defacing of public school property, then have the law posted on every school building. This special act might aid in deterring evil doers from disfiguring school property, and if a few convictions could be had, and some penalties inflicted on a violator of a law so just, it would certainly help much in bringing about a better state of affairs.

Again we appeal to every well-wisher of his country, or lover of children, to aid in making a healthier sentiment, or arousing a latent sentiment to action, so that it may not be truly said of the outhouses belonging to the schools of Michigan as was said of those of Pennsylvania by County Superintendent, Jas. S. Walton, Chester county, Pa.: "The tumble-down, wooden, sin-scratched, hell-sodden sheds that stagger and leer at you from the rear of over fifty per cent of the school houses in this State, make the heart sick when we think of the injured health and blasted morals of the boys and girls therein educated."

DIAGRAMS.

Many of the statistics collected by this department and published in the report are never used in the work of this office, or by any other office of the State; and in fact are referred to only by a few students of economic questions. Hence it is that we have compiled the statistics of several years past on a number of questions that we thought might interest the general public as well as teachers, and by means of the well-known diagrams, picture to the eye the trend taken. In the pages following are given ten diagrams, which we wish teachers would lead pupils to study and reproduce. Not only that the subject matter may be better known, but that our young people may become more familiar with the plan which is used in many instances when magazines and public documents deal with comparative statistics.

In some of the tables presented herewith, one sees that there must be some error in the reports, as, for instance, the sudden jog in the line showing the amount of money for school purposes in diagram seven. The sharp deviation from a steady course followed by an immediate rebound calls for a reason. If no reason is apparent, and the argument of antecedent probability strongly proving a steady course, we are led to believe that an error has been made somewhere in the reports.

In other instances, as for example in diagram five showing a sharp decline in wages of teachers for the year 1882 followed by a similar advance in 1883 and a more gradual increase for several years, we look for a reason and find that a very satisfactory one is at hand in the change from the examination of teachers by township superintendents to that of examination by county boards. This occurred during Supt. Cochran's administration, and it is unquestionably one of the greatest reforms in the history of education in the State. It is worthy to rank alongside the abolishing of the rate bill in 1869.

DIAGRAM I.—*Comparing the school population and actual enrollment.*

a Population in ungraded school districts. b Enrollment in ungraded schools. c Population in graded school districts. d Enrollment in graded schools.

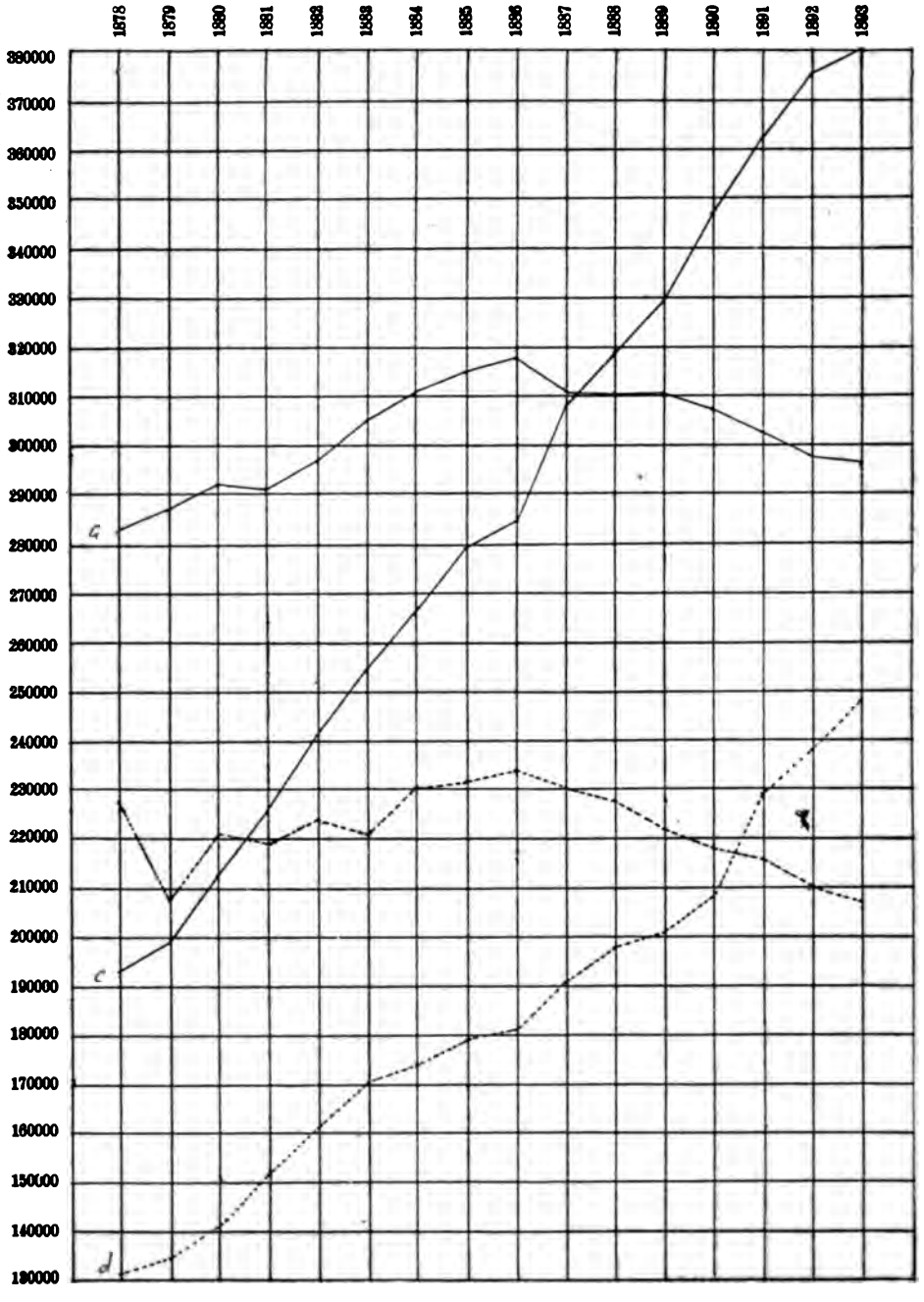


DIAGRAM II.—*Comparing the percentage of attendance.*

a Per cent enrolled to school population in ungraded districts. b Per cent enrolled to school population in graded districts.

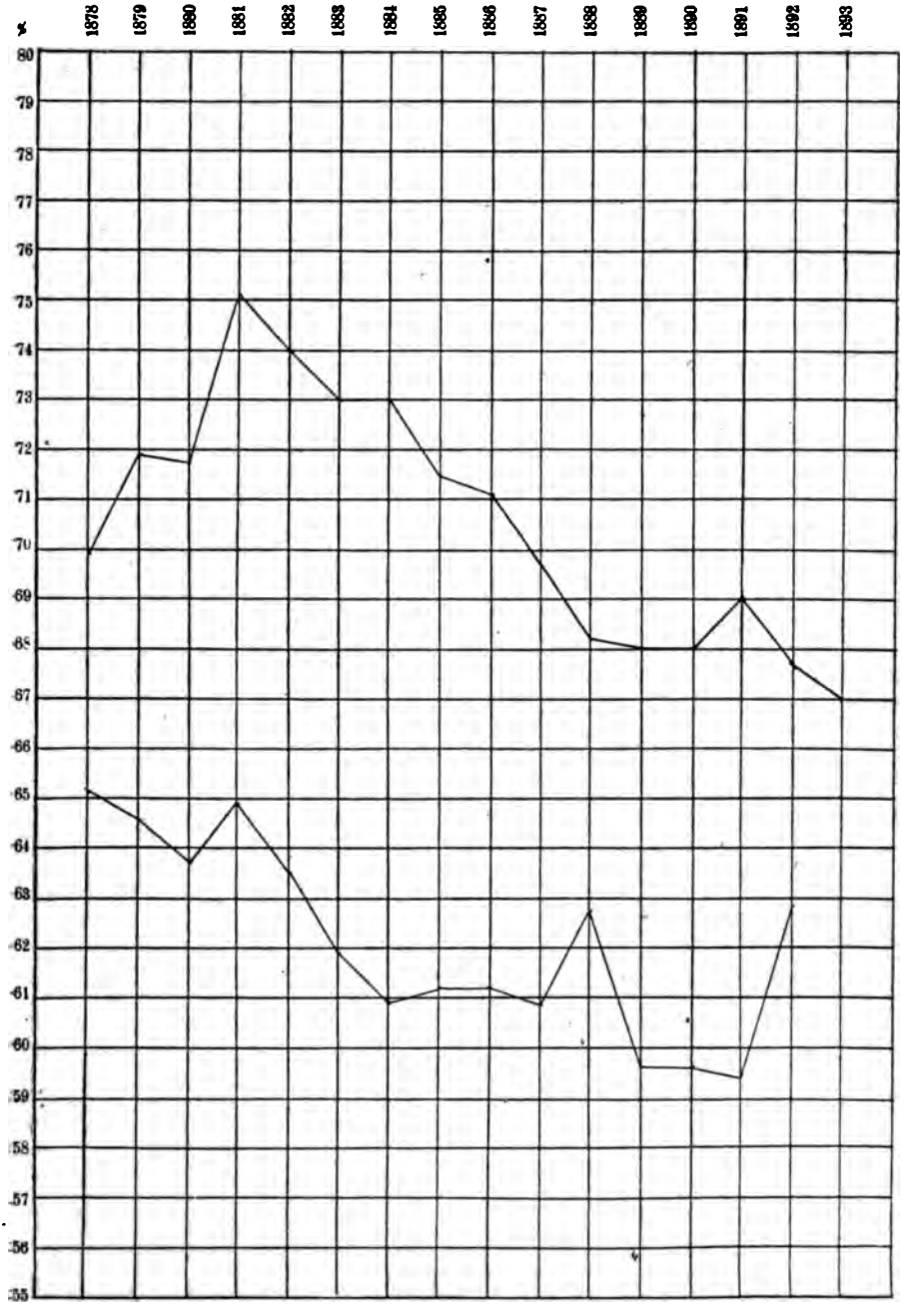


DIAGRAM III.—*Showing the number of teachers employed.*

a Male teachers employed in graded schools. b Male teachers employed in ungraded schools. c Female teachers employed in graded schools. d Female teachers employed in ungraded schools.

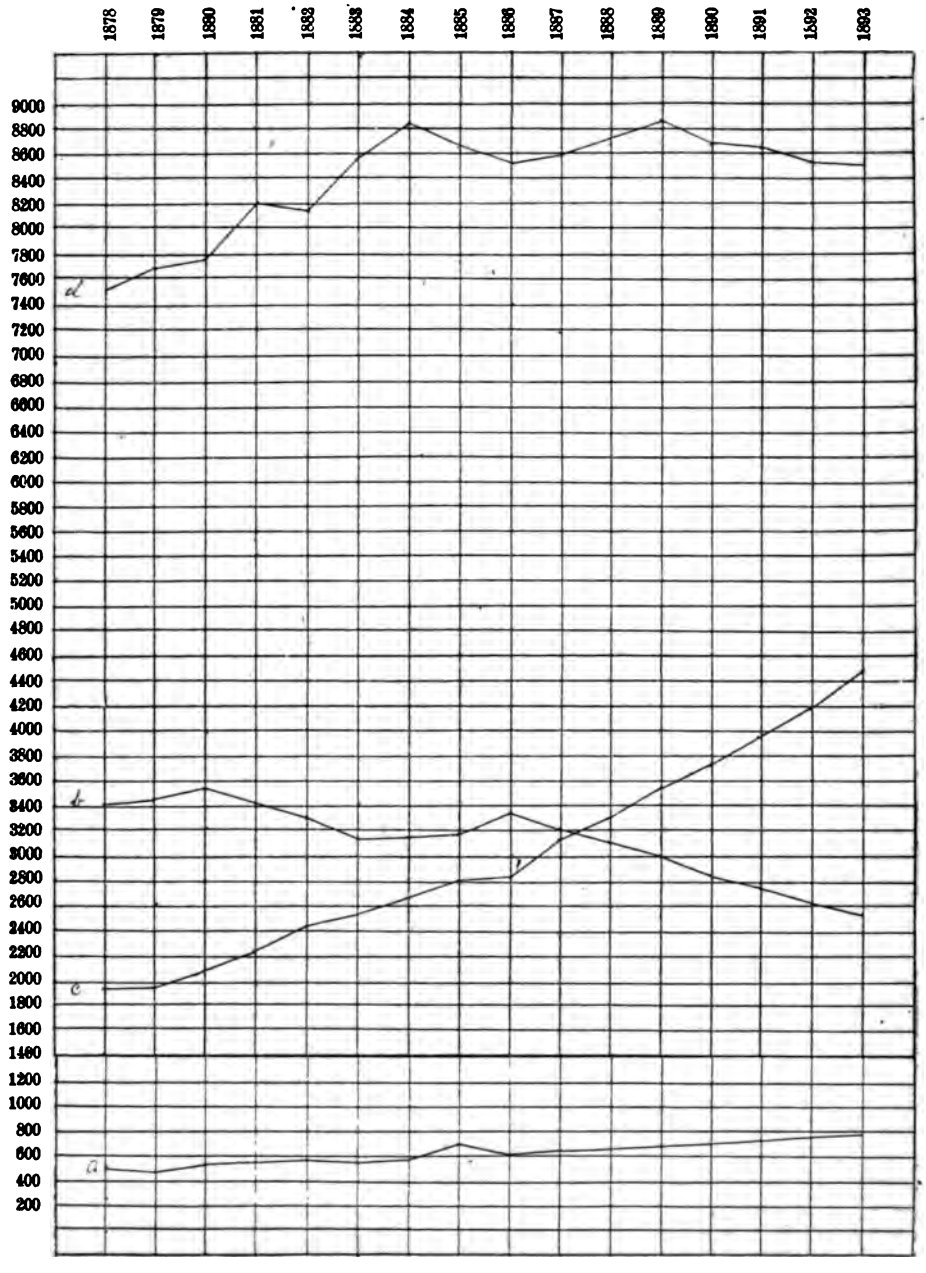


DIAGRAM IV.—*Comparing the wages of male teachers.*

a In graded schools. b In ungraded schools.

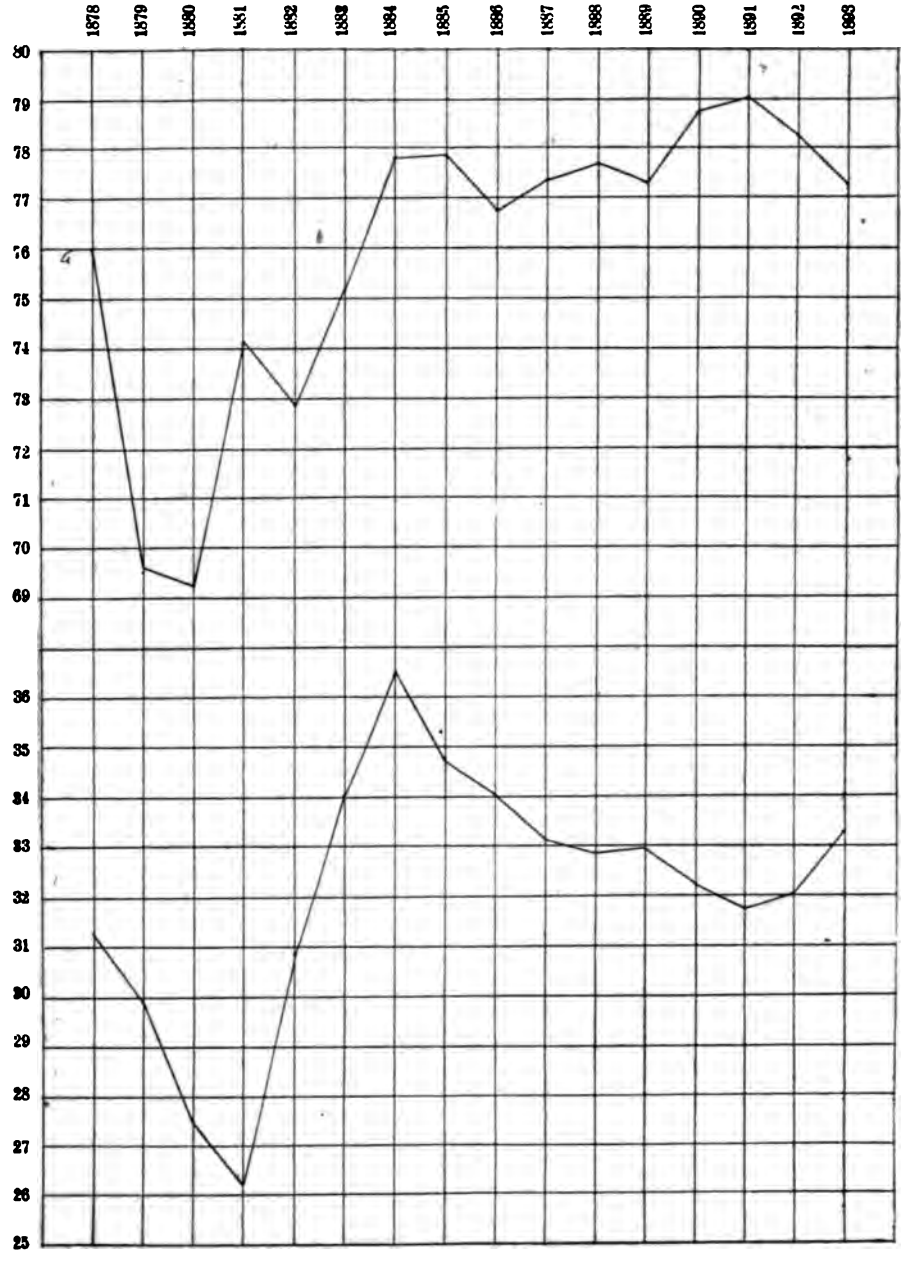


DIAGRAM V.—*Comparing the wages of female teachers.*

a In graded schools. b In ungraded schools.

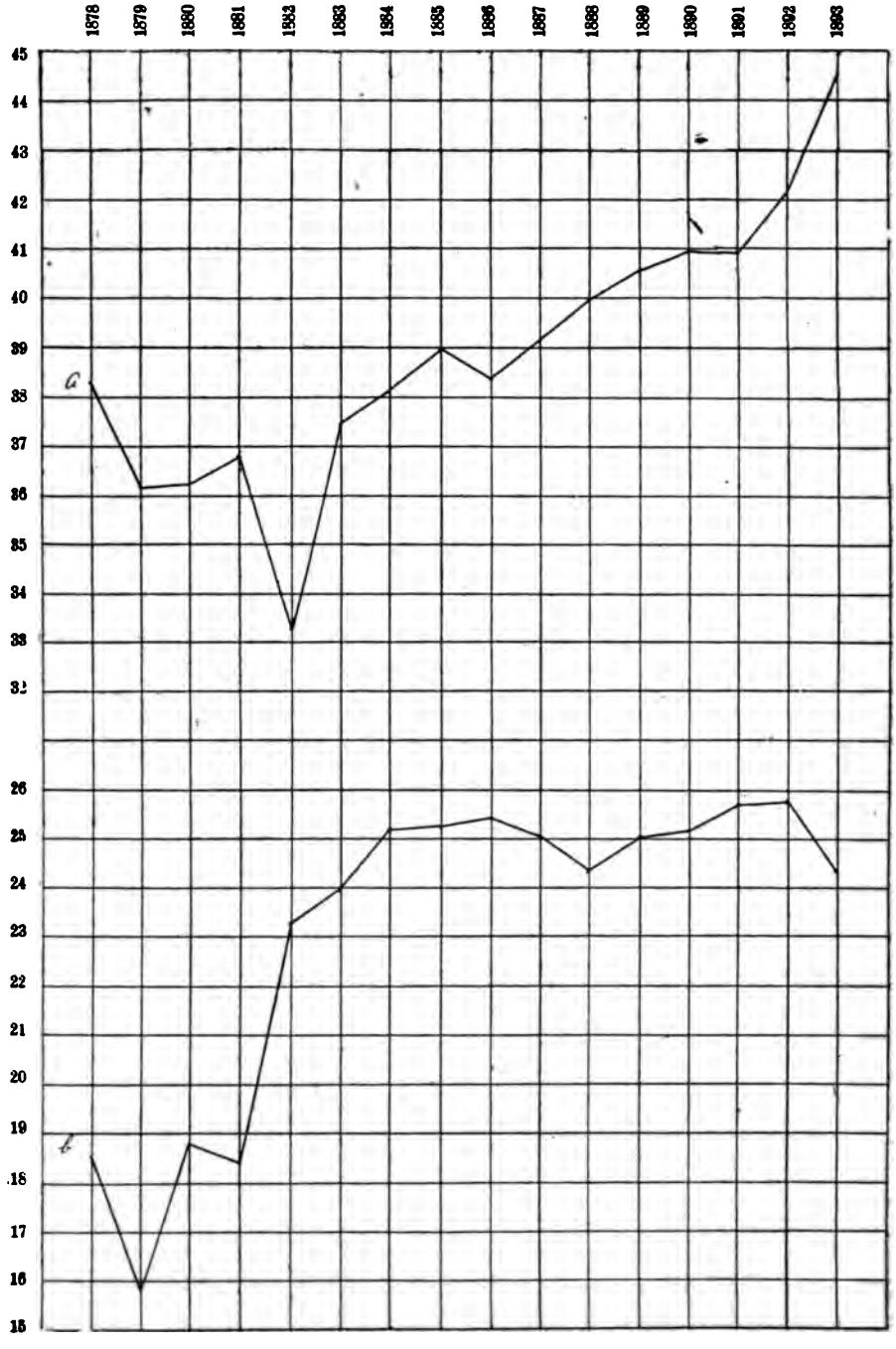


DIAGRAM VI.—*Comparing the cost of instruction.*

a In graded schools. b In ungraded schools.

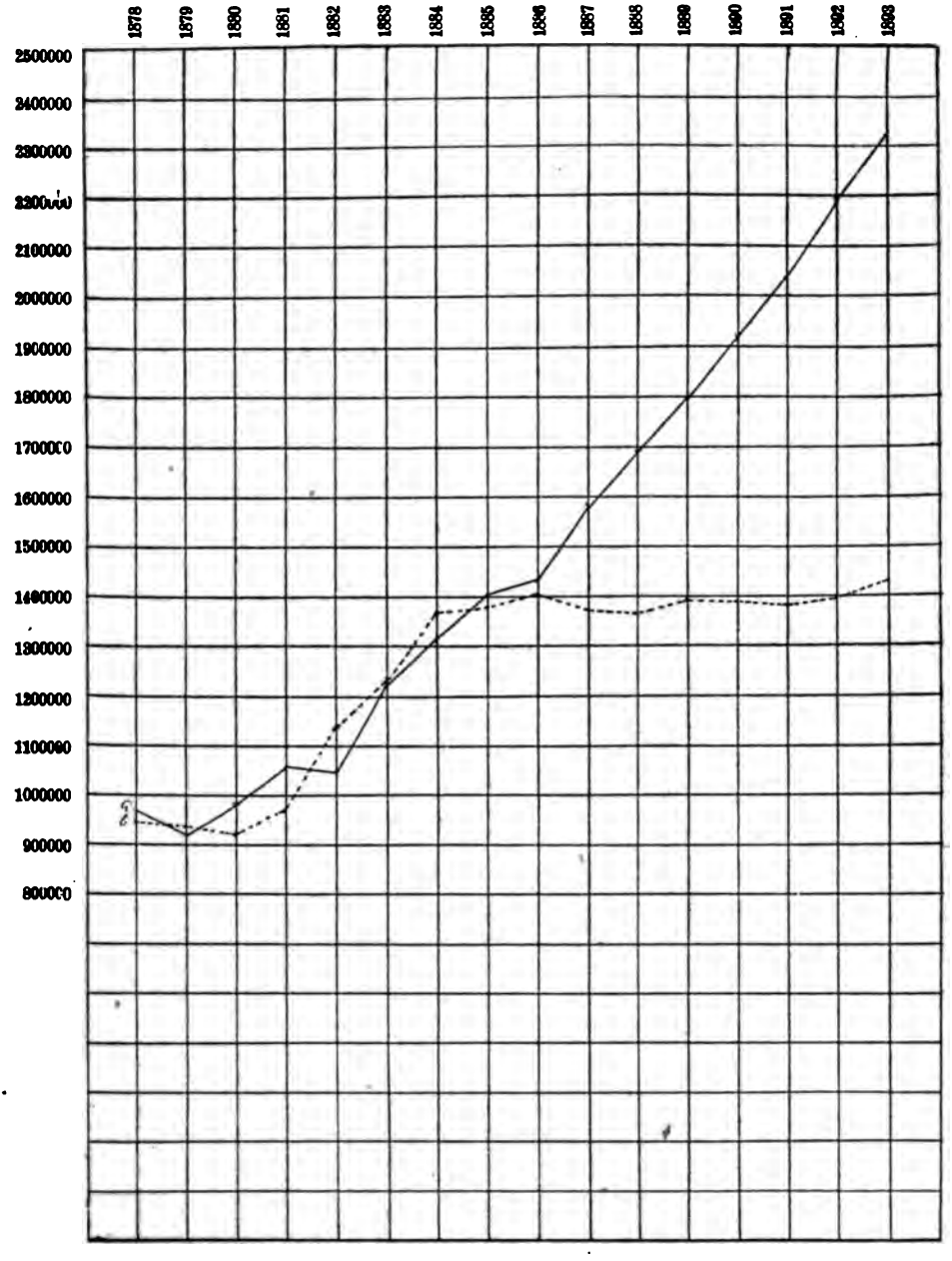


DIAGRAM VII.—*Comparing the amount of money spent for school purposes.*

a In graded schools. b In ungraded schools.

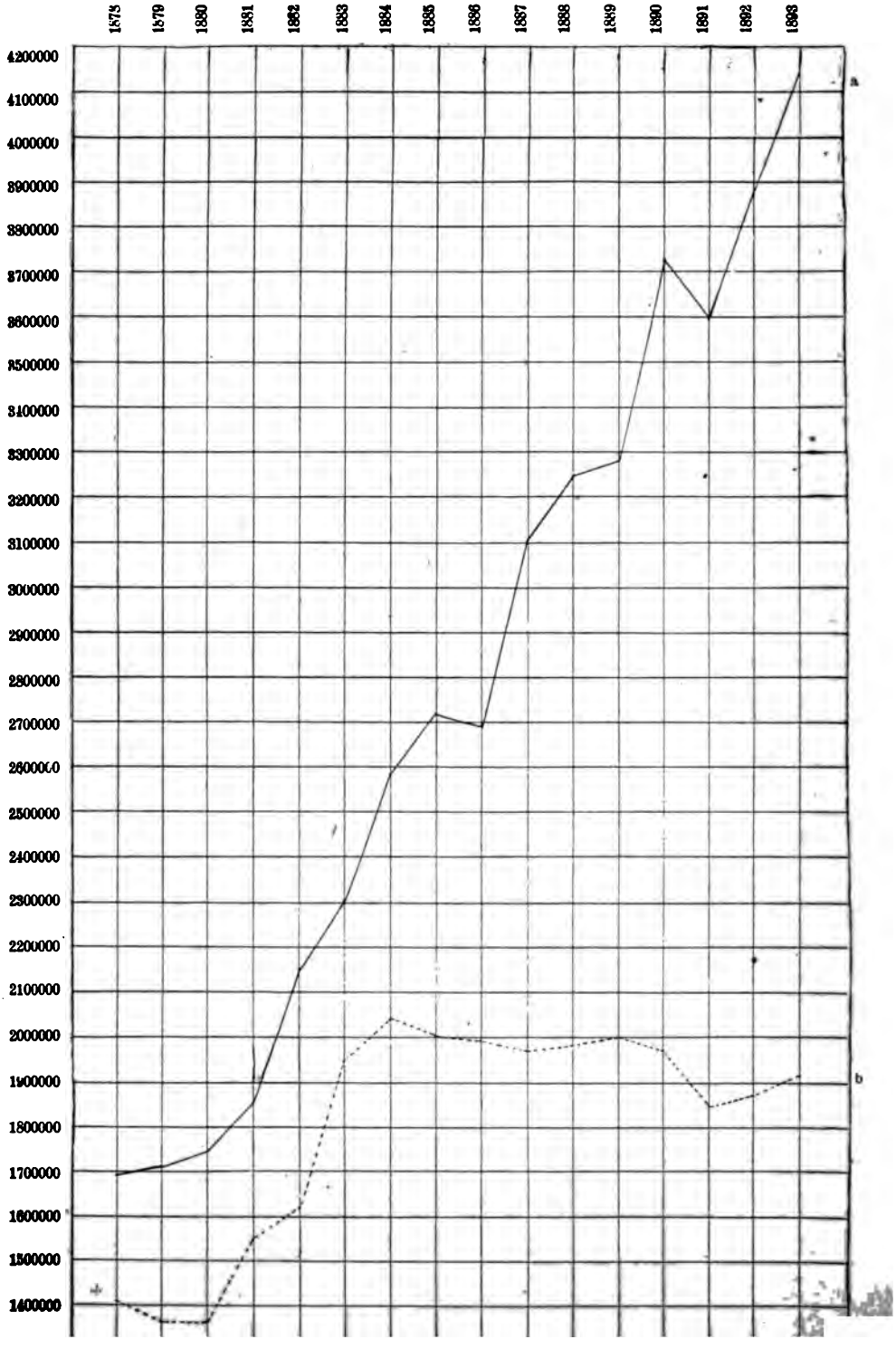


DIAGRAM VIII.—*Comparing the attendance at institutes.*

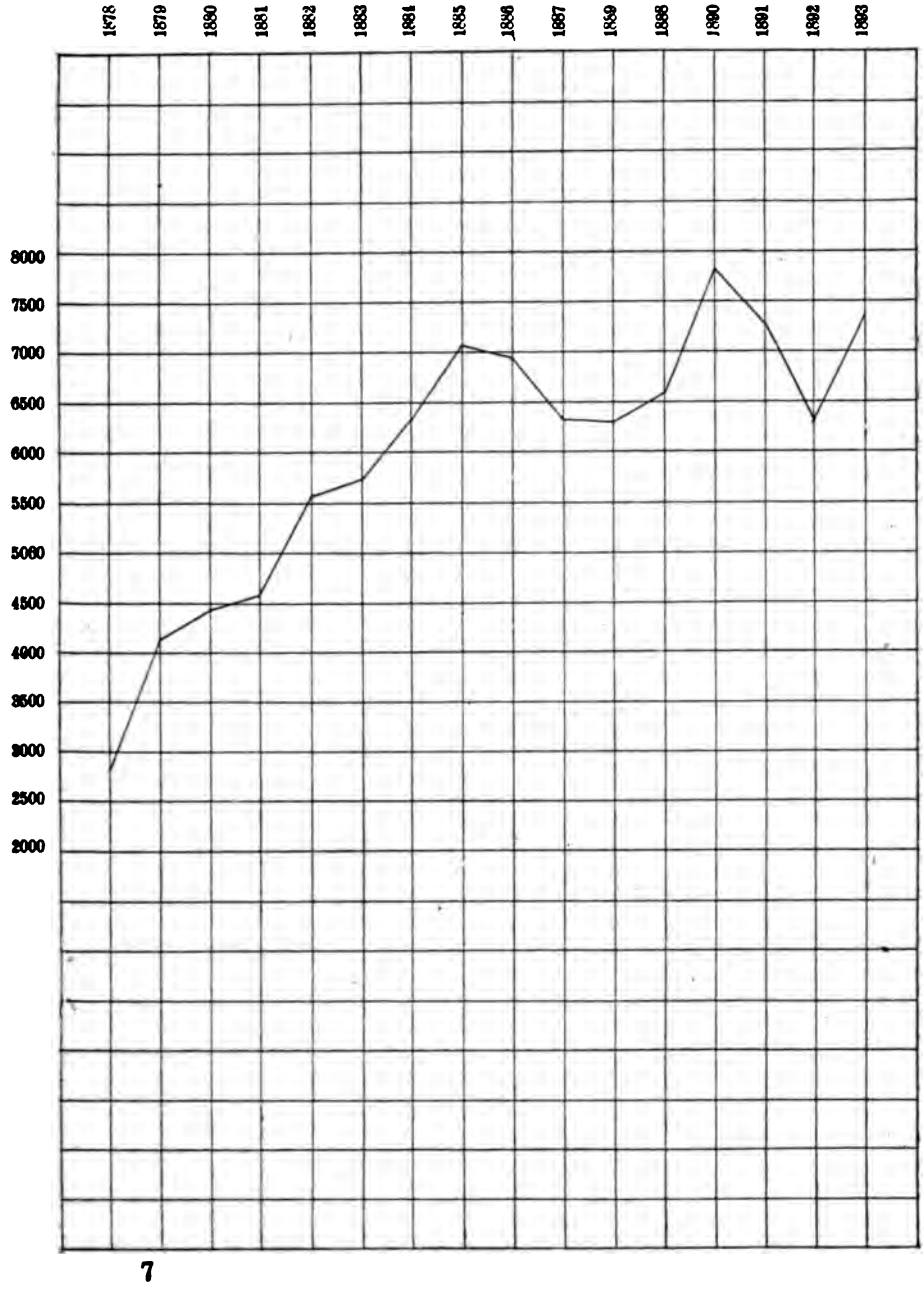


DIAGRAM IX.—*Comparing the expenses of institutes.*

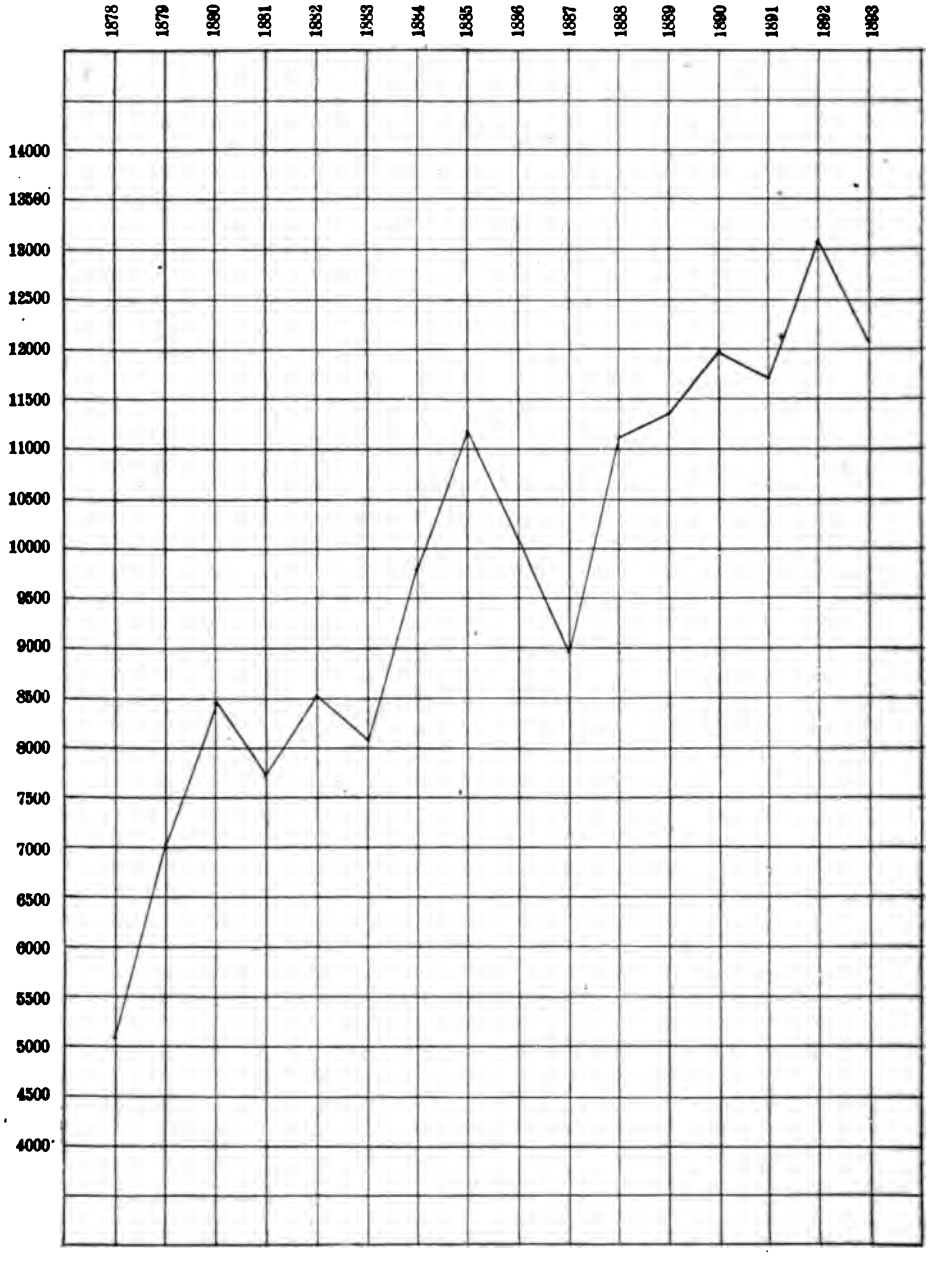
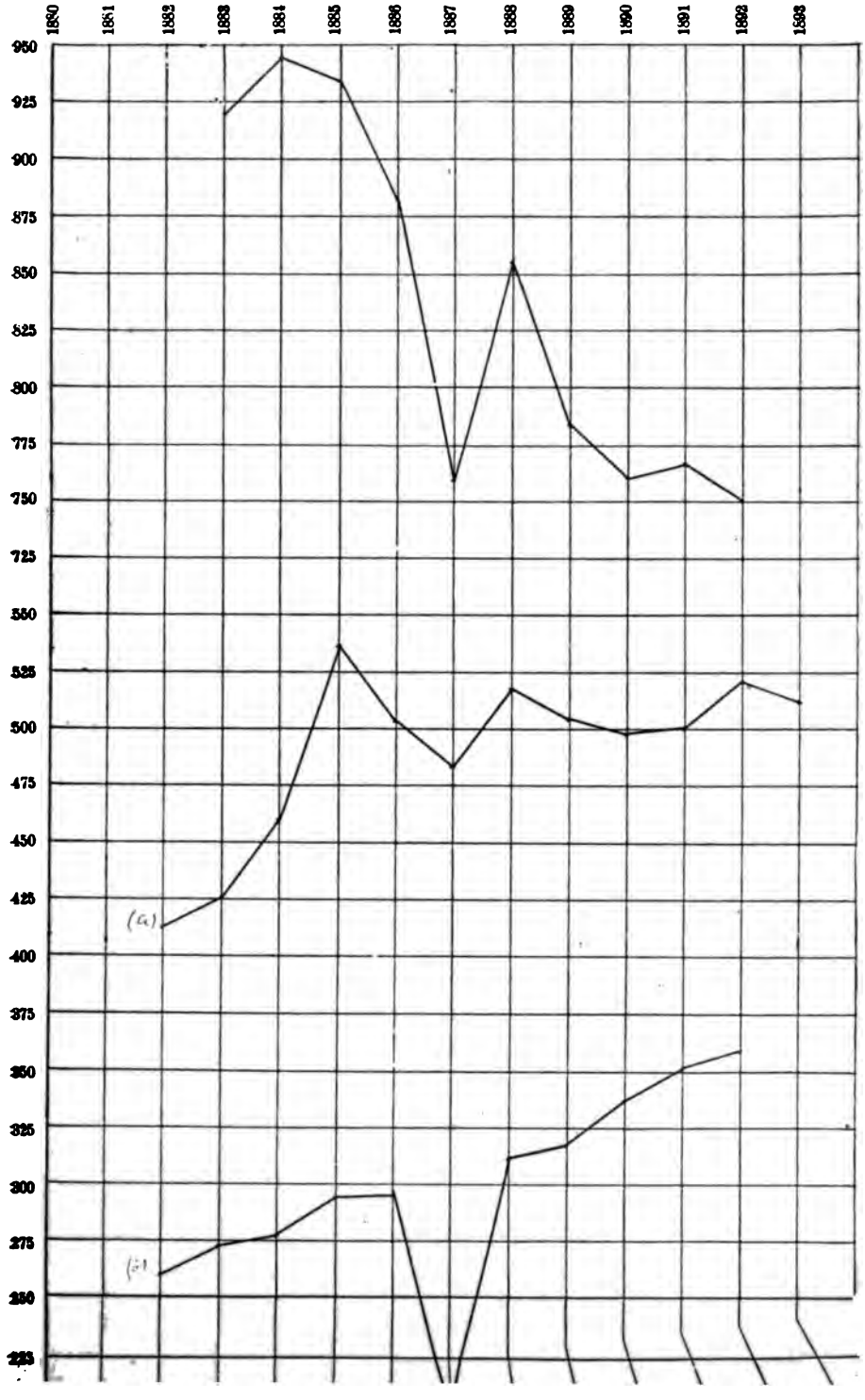


DIAGRAM X.

a Township libraries. b District libraries in districts having over 100 children of school age. c District libraries in districts having less than 100 children of school age.



CHANGES IN SCHOOL LAW.

The legislature of 1893 made a few changes in the school law which may properly be mentioned in this report. We refer to the chapters and sections in which the changes were made and also give in substance the law as amended. Many school districts having less than one hundred pupils have found it necessary to build school houses large enough to accommodate two departments. The first section of chapter six of the school law was therefore amended by adding the following words, "districts having seventy-five children of like age may have an indebtedness not to exceed two thousand dollars." The reason for this addition to the law will be clear after reading the section into which it was included. The formation of district libraries occupies considerable space in another part of this report; and the amendment that authorizes libraries to be organized in any district, was made by leaving out the words "having a school census of not less than one hundred children;" thus making it possible for any district of whatever size to receive its share of the funds for library purposes and have some good books for the use of the children.

The law of 1891 which created the office of commissioner of schools was an excellent law, but after being in operation two years it required a few alterations to make it as complete as its originators designed. Section one of the act is amended by the insertion of a clause providing for the appointment of a member of the county board of examiners in case of a vacancy. It reads as follows:

"In case a vacancy shall occur at any time in the office of school examiner, the judge of probate, together with the board of the county in which such vacancy shall have occurred, shall, within ten days after the occurrence of such vacancy, appoint some suitable person to fill such vacancy. And the person so appointed shall hold the office for the unexpired portion of the term, or until his or her successor is appointed or qualified."

Section four of this law is changed so that the regular spring examination begins on the last Thursday of March instead of the first Thursday; this change was made to accommodate teachers and pupils whose winter terms of school do not close until about the middle of March. The minimum age of teachers was fixed at seventeen by substituting in section five the word "seventeen" instead of "sixteen." Section five is also amended by providing for the renewal of teachers' certificates without an examination; this exempts the thorough progressive teacher from the grind of examination day.

"The board of examiners shall have the right, however, to renew without examination the certificates of persons who shall have previously obtained an average standing of at least 85 per cent in all studies covered in two or more previous examinations and who shall have been since that examination continuously and successfully teaching in the same county."

The additions to the law that require the signature of the Superintendent of Public Instruction to first grade certificates, and divide third grade certificates into two classes are found in section six of this law. It will be better understood by quoting the entire section as amended:

"There shall be three grades of certificates granted by the board of school examiners, in its discretion, and subject to such rules and regulations as the Superintendent of Public Instruction may prescribe, which grades of certificates shall be as follows: The certificate of the first grade shall be granted only to those who have taught at least one year with ability and success, and it shall be valid throughout the State for four years: *Provided*, That all examination papers for first grade certificates favorably passed upon by the board of examiners, together with such certificates shall be forwarded to the Superintendent of Public Instruction within ten days from date of examination, for inspection: *And provided further*, That no first grade certificate shall be valid in any county other than that in which it is granted unless approved and countersigned by the Superintendent of Public Instruction* and a copy filed with the county commissioner in the county in which the holder of said certificate desires to teach. The certificate of [the] second grade shall be granted only to those who shall have taught at least seven months with ability and success, and it shall be valid throughout the county for which it shall be granted for three years. The certificates of the third grade shall be divided into two classes, known as A and B. Third grade certificates of class A shall be granted only to persons who have taught successfully and continuously for at least three years next preceding the examination in primary departments of graded schools. And the [certificate] certificates of this class shall entitle the holder to teach in primary departments of graded schools only. Third grade certificates of class B shall license the holder to teach in any school of the county in which it shall be granted for one year; but no more than three certificates of this class shall be granted to the same person:* *Provided*, That the county commissioner shall have power, upon personal examination satisfactory to himself or herself, to grant certificates which shall license the holder thereof to teach in a specified district for which it shall be granted, but such certificate shall not continue in force beyond the time of the next public examination, and in no case shall a second special certificate be granted to the same person, and it shall not in any way exempt the teacher from a full examination."

*COLLEGE DIPLOMAS AND CERTIFICATES.

SECTION 1. The State Board of Education is hereby empowered and shall grant teachers' certificates without examination to any person who has received a bachelor's, master's or doctor's degree from any college in this State having a course of study actually taught in such college, of not less than four years, in addition to the preparatory work necessary for admission to the University of Michigan, upon the recommendation from the faculty of such college, stating that in their judgment the applicant is entitled to receive such certificate; and in addition thereto, a course in the science and art of teaching of at least one college year of five and a half hours per week, which shall have been approved by said Board of Education, which course shall have been taken by such person who shall have received a diploma therefor, and shall include a thorough examination of the applicant by the college granting such diploma, as to qualification and fitness for teaching: *And provided*, That if said person furnishes to said board satisfactory proof of having successfully taught for three years in the schools of this State, said certificate shall be a life certificate. If such proof is not furnished said board, then such certificate shall be for four years only, and a life certificate may at any time thereafter be issued by said board upon the filing of such proof. Such certificate shall entitle the holder to teach in any of the schools of this State without examination, provided a copy of the same shall have been filed or recorded in the office of the legal examining officer, or officers of the county, city, township or district in which said person is to teach, and shall be annulled only by the State Board of Education, and by it only for cause.

SEC. 2. It shall be the duty of the said Board of Education to carefully examine any course of study in the science and art of teaching that may be submitted to it by the trustees of any college, and if satisfactory, to furnish such trustees with a written certificate approving the same.

SEC. 3. If, at any time the said Board of Education shall conclude that any college, the graduates of which may desire to receive such certificate, is not giving such instruction in the science and art of teaching and in the other branches as shall be approved by said board, then said board shall so determine by a formal resolution, and shall give notice thereof to the trustees of such college, and thereafter no teachers' certificates shall be given by said board to the graduates of such college until said board shall be satisfied that proper instruction in the science and art of teaching and in other branches is given by such college, and shall certify such fact to the trustees of such college.

* Act No. 136 Public Acts of 1893.

THE MICHIGAN SCHOOL EXHIBIT.

The following is a statement of the receipts and expenses of the public school exhibit of Michigan at the World's Fair, covering the years 1892 and 1893, as furnished by Ex-Supt. Ferris S. Fitch.

RECEIPTS.

From penny contributions	$4,190 44
State World's Fair commission	999 96
special appropriation of the Legislature	2,000 00
sale of paper	319 96
sale of tables	33 75
sale of matting	13 00
	$7,557 11
Less deposits still unpaid by receiver of Central Mich. Savings Bank	1,479 00
	$6,078 11
Balance still due on salary of Supt. of exhibit	1,954 15
	$8,032 26

EXPENSES.

For paper and printing	$1,433 70
traveling expenses of supt. and committees	885 31
book binding and printing titles	314 34
furnishings for exhibit	1,040 22
express and freight	109 72
postage, telegraph and telephone	190 51
clerk hire	1,000 00
labor	786 11
personal expenses at Chicago	368 00
salary of superintendent of exhibit for 1893	2,000 00
	$8,127 91
Less amount paid by State Board of Education for furnishing the State Normal exhibit	95 65
	$8,032 26

Attention is called to the following points connected with the financial statement:

First, $1,651.42 of the total expenses was incurred prior to February 1, 1893, when Mr. Fitch took active charge of the work;

Second, The traveling expenses cover those of Messrs. Hewitt and Fitch while in charge of the work, also the six members of the general committee, for the State at large, and the five members of the sub-committee for the Upper Peninsula;

Third, When the Central Michigan Savings Bank of Lansing closed its doors and was put into the hands of a receiver it had $2,113.33 of the "penny contributions" which had been deposited there by Prof. W. C. Hewitt, while secretary of the exhibit. At the present date, February 14, 1894, three dividends have been paid, leaving $1,479 still unpaid;

Fourth, The general committee on the educational exhibit at a meeting held January 30, 1893, after the resignation of Mr. Hewitt as secretary and of Mr. Fitch as chairman of the committee, and after several fruitless

attempts to secure a suitable man to prepare and take charge of the exhibit, appointed Mr. Fitch superintendent of the exhibit at a salary of $2,000 and necessary expenses. He has so far received $45.85 and expenses.

EDUCATIONAL FUNDS.

THE PRIMARY SCHOOL FUNDS.

The moneys derived from the sale of school lands, and from escheats to the State constitute the primary school fund proper, and bear seven per cent interest. The moneys derived from the sale of swamp lands donated by congress, constitute the primary school five per cent fund.

The interest derived from each of these funds, together with the surplus of specific taxes remaining in the State treasury after paying the interest on the several educational funds and the interest and principal of the State debt forms the primary school interest fund, the entire amount of which, that may be on hand at the time, is apportioned to the school districts of the State.

THE PRIMARY SCHOOL FUNDS.

Primary school 7 per cent fund:		
In the hands of the State June 30, 1893	$3,701,889 25	
Due from purchasers of lands June 30, 1893	173,285 48	
Total 7 per cent fund June 30, 1893		$3,875,174 73
Primary school 5 per cent fund:		
In the hands of the State June 30, 1893	$811,099 05	
Due from purchasers of lands June 30, 1893	7,919 34	
Total 5 per cent fund June 30, 1893		819,018 39
Total school funds June 30, 1893		$4,694,193 12

PRIMARY SCHOOL INTEREST FUND.

Interest paid by the State on 7 per cent fund	$256,483 84	
Interest paid by holders of lands on 7 per cent fund	12,606 00	
Penalty on primary school 7 per cent fund	514 04	
Total interest on 7 per cent fund		$269,603 88
Interest paid by the State on 5 per cent fund	$40,408 94	
Interest paid by holders of lands on 5 per cent fund	539 81	
Penalty on primary school 5 per cent fund	26 81	
Total interest on 5 per cent fund		$40,974 56
Total income from both funds		$310,578 44
Surplus of specific taxes transferred		686,116 66
Rent of land		1 00
Paid by trespassers on school land		428 28
Total primary school interest fund		$997,124 38

THE UNIVERSITY FUND.

The income derived from the University fund from July 1, 1892, to June 30, 1893, and the amount standing to the credit of the fund on the latter date was as follows:

In the hands of the State June 30, 1893	$523,906 93
Due from purchasers of lands June 30, 1893	25,596 26
Total fund	$549,503 19
Interest paid by the State	$36,601 90
Interest paid by holders of lands	1,835 44
Penalty on University fund	38 32
Total income	$38,475 66

THE AGRICULTURAL COLLEGE FUND.

This fund, derived from the sale of lands granted by the State and by the general government for the support of the college, draws 7 per cent interest. The State of the fund at the close of the last fiscal year was as follows:

In the hands of the State June 30, 1893	$521,702 70
Due from purchasers of lands June 30, 1893	81,116 00
Total fund	$602,818 70
Interest paid by the State	$31,464 01
Interest paid by holders of lands	6,219 98
Penalty on college fund	315 71
Paid by trespassers on lands	40 00
Total income	$38,039 70

THE NORMAL SCHOOL FUND.

This fund, bearing 6 per cent interest, is derived from the sale of salt spring lands, granted by the State for the support of a Normal School. The condition of this fund and its income at the close of the last fiscal year was as follows:

In the hands of the State June 30, 1893	$65,022 62
Due from purchasers of lands June 30, 1893	1,578 92
Total funds	$66,601 54
Interest paid by the State	$3,890 15
Interest paid by holders of lands	320 90
Penalty on Normal School fund	15 88
Total income	$4,226 93

Very respectfully your obedient servant,

HENRY R. PATTENGILL,

Superintendent of Public Instruction.

STATISTICAL TABLES.

STATISTICAL TABLES.

TABLE I.

Comparative summary of statistics for the years 1892 and 1893.

Items.	1892.	1893.	Increase.	Decrease.
Districts and schools.				
Number of townships and independent districts reporting	1,259	1,262	3	
Number of graded school districts	571	585	14	
Number of ungraded school districts	6,614	6,580		34
Total	7,185	7,165		20
Number of township unit districts		67		
School census of graded school districts	376,464	381,064	4,600	
School census of ungraded school districts	297,815	296,612		1,203
Total	674,279	677,676	3,397	
Enrollment in graded schools	237,398	248,099	10,701	
Enrollment in ungraded schools	210,069	207,499		2,570
Total	447,467	455,598	8,131	
Percentage of attendance in graded schools	63.1	65.1	2.	
Percentage of attendance in ungraded schools	70.5	69.9		.6
Percentage for the State	66.3	67.2	.9	
Number of districts reporting having maintained school	7,130	7,066		64
Average duration in months of graded schools	9.4	9.3		.1
Average duration in months of ungraded schools	7.7	7.7		
Average for the State	7.8	7.8		

TABLE I.—CONTINUED.

Items.	1892.	1893.	Increase.	Decrease.
Number of private and select schools reported	288	359	71	
Number of men teachers in such schools	259	334	75	
Number of women teachers in such schools	387	660	273	
Estimated number of pupils attending such schools	26,614	41,717	15,103	
Teachers and their employments.				
Number of teachers necessary to supply graded schools	4,758	5,017	259	
Number of teachers necessary to supply ungraded schools	6,605	6,602		3
Total	11,363	11,619	256	
Number of men teachers employed in graded schools	750	773	23	
Number of men teachers employed in ungraded schools	2,609	2,527		82
Total	3,359	3,300		59
Number of women teachers employed in graded schools	4,192	4,491	299	
Number of women teachers employed in ungraded schools	8,549	8,514		35
Total	12,741	13,005	264	
Whole number of teachers employed in graded schools	4,942	5,264	322	
Whole number of teachers employed in ungraded schools	11,158	11,041		117
Total	16,100	16,305	205	
Average number of months taught by men in graded schools	9.	9.		
Average number of months taught by men in ungraded schools	5.	5.		
General average	6.	6.		
Average number of months taught by women in graded schools	9.42	8.91		.51
Average number of months taught by women in ungraded schools	4.41	4.66	.25	
General average	6.06	6.26	.2	
Total wages of male teachers in graded schools	$530,466 65	$537,955 31	$7,488 66	
Total wages of male teachers in ungraded schools	423,039 61	420,902 72		$2,136 89
Total	$953,506 26	$958,858 03	$5,351 77	

TABLE I.—CONTINUED.

Items.	1892.	1893.	Increase.	Decrease.
Total wages of female teachers in graded schools	$1,664,762 31	$1,788,592 43	$123,830 12	
Total wages of female teachers in ungraded schools	974,539 23	1,011,455 10	36,915 87	
Total	$2,639,301 54	$2,800,047 53	$160,745 99	
Aggregate wages of all teachers in graded schools	$2,195,228 96	$2,326,547 74	$131,318 78	
Aggregate wages of all teachers in ungraded schools	1,397,578 84	1,432,357 82	34,778 98	
Total	$3,592,807 80	$3,758,905 56	$166,097 76	
Average monthly wages of male teachers in graded schools	$78 80	$77 22		$1 08
Average monthly wages of male teachers in ungraded schools	32 02	33 29	$1 27	
Average wages of male teachers in all schools	$47 72	$48 89	$1 17	
Average monthly wages of female teachers in graded schools	$42 13	$44 65	$2 52	
Average monthly wages of female teachers in ungraded schools	25 79	24 41		$1 38
Average wages of female teachers in all schools	$34 15	$34 36	$0 21	
Examination and certification of teachers.				
Number of public examinations held	426	422		4
Number of applicants for regular certificates	16,178	16,553	380	
Number of first grade certificates granted	245	274	29	
Number of second grade certificates granted	682	708	26	
Number of third grade certificates granted	9,376	9,846	470	
Whole number of regular certificates granted	10,303	10,828	525	
Number of applicants for special certificates	1,428	1,106		322
Number of special certificates granted	1,078	822		256
Number of teachers who held State or Normal School certificates	498	479		19
Whole number of legally qualified teachers	11,774	11,885	111	
Number licensed without previous experience in teaching	2,515	2,798	283	
Number of applicants who had attended State Normal School	1,549	1,330		219
Number of applicants who had attended institutes during the year	4,916	4,510		406
School property.				
Number of frame school houses	5,897	5,897		
Number of brick school houses	1,303	1,358	55	
Number of stone school houses	76	74		2
Number of log school houses	390	361		29
Total	7,666	7,690	24	

TABLE I.—CONTINUED.

Items.	1892.	1893.	Increase.	Decrease.
Whole number of sittings in school houses	563,576	570,899	7,323	
Estimated value of property in graded school school districts	$10,897,586	$11,532,417	$634,831	
Estimated value of property in ungraded school districts	4,351,117	4,225,504		$125,613
Total	$15,248,703	$15,757,921	$509,218	
Number of districts reporting dictionaries in school	4,977	5,265	288	
Number of districts reporting globes in school	2,900	2,999	99	
Number of districts reporting maps in school	3,985	4,093	108	
Financial.				
Amount of one mill tax received	$661,804 53	$659,569 29		$2,235 24
Amount of primary school int. fund received	906,810 25	1,027,764 42	$120,954 17	
Amount received from non-resident tuition	64,209 54	69,216 61	5,007 07	
Amount received from district taxes	3,826,315 83	3,929,435 80	103,119 97	
Amount received from all other sources	279,682 54	363,336 06	83,653 52	
Total net receipts	$5,738,822 69	$6,049,322 18	$310,499 49	
Amount received from loans	627,114 00	378,349 49		$248,764 51
Balance on hand from preceding year	1,087,811 86	1,346,259 33	258,447 47	
Total resources including amount on hand from preceding year	$7,453,748 55	$7,773,931 00	$320,182 45	
Amount paid male teachers	$953,607 59	$958,543 45	$4,935 86	
Amount paid female teachers	2,635,856 25	2,800,243 35	164,387 10	
Amount paid for building and repairs	841,119 82	923,582 62	82,462 80	
Amount paid for interests on loans	100,870 05	116,786 28	15,916 23	
Amount paid for all other purposes	1,214,706 67	1,263,490 96	48,784 29	
Total net expenditures	$5,746,160 38	$6,062,646 66	$316,486 28	
Amount paid on bonded indebtedness	340,541 89	359,331 59	18,789 70	
Balance carried to next year	1,367,046 28	1,351,952 75		$15,093 53
Total expenditures incl'ding balance on hand	$7,453,748 55	$7,773,931 00	$320,182 45	
Total expenditures in graded school districts	$3,874,761 71	$4,144,181 02	$269,419 31	
Total expenditures in ungraded school districts	1,871,398 67	1,918,465 64	47,066 97	
Total net expenditures	$5,746,160 38	$6,062,646 66	$316,486 28	
Total bonded indebtedness of districts	$1,982,328 60	$1,870,463 18		$111,865 42
Total floating indebtedness of districts	139,455 12	132,202 74		7,252 38
Total indebtedness	$2,121,783 72	$2,002,665 92		$119,117 80
Total indebtedness in graded school districts	$1,855,031 91	$1,766,777 63		$88,254 28
Total indebtedness in ungraded school districts	266,751 81	235,888 29		30,863 52
Total indebtedness	$2,121,783 72	$2,002,665 92		$119,117 80
Total amount due the districts	$196,484 28	$208,460 29	$12,026 01	

TABLE I.—CONTINUED.

Items.	1892.	1893.	Increase.	Decrease.
School libraries.				
Number of townships reporting libraries	520	513		7
Number of districts reporting libraries	1,110	1,094		16
Total number of libraries	1,630	1,607		23
Number of volumes in township libraries	159,228	165,752	6,524	
Number of volumes in district libraries	389,424	423,558	34,134	
Total number of volumes in all libraries	548,652	589,310	40,658	
Amount of taxes voted for township libraries	$5,860 12	3,849 71		$2,010 41
Amount received from county treasurers for township libraries	25,944 32	13,003 68		12,940 64
Number of townships diverting money to general school purposes	474	576	102	
Number of townships forfeiting library moneys	195	180		15
Amount paid for support of township libraries	$18,541 00	$19,903 86	$1,362 86	
Amount paid for support of district libraries	76,175 33	81,816 93	5,641 60	
Teachers' Institutes.				
Number of State institutes held	69	70	1	
Number of men enrolled at such institutes	1,261	1,450	189	
Number of women enrolled at such institutes	5,085	5,282	797	
Total enrollment	6,346	7,332	986	
Amount received from State Treasurer for such institutes	$1,696 28	$1,670 21		$26 07
Amount received from county treasurers for such institutes	11,395 27	10,434 43		960 84
Total amount expended	$13,091 55	$12,104 64		$986 91
Miscellaneous.				
Number of counties reporting county teachers' associations	61	54		7
Amount per diem received by examiners	$10,914 26	$10,604 50		$309 76
Amount paid commissioners of schools	67,668 64	66,665 00		1,003 64
Total compensation	$78,582 90	$77,269 50		$1,313 40

TABLE I.—CONTINUED.

Items.	1892.	1893.	Increase.	Decrease.
Amount allowed by supervisors for expenses of county boards	$5,634 89	$6,160 12	$525 23	
Amount paid and due township inspectors for services	12,692 75	14,479 15	1,786 40	
Amount paid chairmen of board of inspectors	15,445 64	26,485 65	11,040 01	
Total amount of primary school interest fund apportioned	$1,009,099 40	$989,932 57		$19,166 83
Rate per capita, May apportionment	$0 68	$0 77	$0 09	
Rate per capita, November apportionment	84	70		$0 14
Rate per capita for year	$1 52	$1 47		$0 05

TABLE II.

Sixteenth and seventeenth semi-annual apportionment of the primary school interest fund.

Counties.	Apportionment, May 10, 1893. Rate per capita, 77 cents.			Apportionment Nov. 10, 1893. Rate per capita, 70 cents.		
	Whole No. of children.	No. included in apportionment.	Amount apportioned.	Whole No. of children.	No. included in apportionment.	Amount apportioned.
Totals	674,279	672,384	$518,035 12	675,006	673,195	$471,897 45
Alcona	1,698	1,666	$1,282 82	1,698	1,666	$1,166 20
Alger	277	277	213 29	277	277	193 90
Allegan	12,310	12,310	9,478 70	12,310	12,310	8,617 00
Alpena	5,977	5,977	4,602 29	5,977	5,977	4,183 90
Antrim	3,546	3,533	2,720 41	3,546	3,533	2,473 10
Arenac	2,154	2,111	1,625 47	2,154	2,111	1,477 70
Baraga	1,184	1,184	911 68	1,184	1,184	828 80
Barry	7,261	7,253	5,584 81	7,261	7,253	5,077 10
Bay	19,967	19,930	a 15,457 06	19,967	19,930	13,951 00
Benzie	1,992	1,984	1,527 68	1,992	1,984	1,388 80
Berrien	13,197	13,197	10,161 69	13,197	13,197	9,237 90
Branch	7,132	7,132	5,491 64	7,132	7,132	4,992 40
Calhoun	12,166	12,166	9,367 82	12,166	12,166	8,516 20
Cass	5,843	5,843	4,499 11	5,843	5,843	4,090 10
Charlevoix	3,185	3,185	2,452 45	3,185	3,185	2,229 50
Cheboygan	4,030	3,959	3,048 43	4,030	3,959	2,771 30
Chippewa	3,758	3,673	2,828 21	3,758	3,673	2,571 10
Clare	2,188	2,161	1,663 97	2,188	2,161	1,512 70
Clinton	8,125	8,125	6,256 25	8,125	8,125	5,687 50
Crawford	757	738	568 26	757	738	516 60
Delta	4,671	4,618	3,555 86	4,671	4,618	3,232 60
Dickinson	3,532	3,532	2,719 64	3,532	3,532	2,472 40
Eaton	9,232	9,232	7,108 64	9,232	9,232	6,462 40
Emmet	2,579	2,577	1,984 29	2,579	2,577	1,803 90
Genesee	11,488	11,479	8,838 83	11,488	11,479	8,035 30
Gladwin	1,238	1,193	918 61	1,238	1,193	835 10
Gogebic	3,149	3,149	2,424 73	3,149	3,149	2,204 30
Grand Traverse	4,133	4,133	3,182 41	4,133	4,133	2,893 10
Gratiot	9,216	9,216	7,096 32	9,216	9,216	6,451 20
Hillsdale	8,360	8,355	6,433 35	8,360	8,355	5,848 50
Houghton	13,246	13,224	10,182 48	13,246	13,224	9,256 80
Huron	11,705	11,705	9,012 85	11,705	11,705	8,193 50
Ingham	11,132	11,132	8,571 64	11,132	11,132	7,792 40
Ionia	10,037	10,037	7,728 49	10,037	10,037	7,025 90
Iosco	4,286	4,286	3,300 22	4,286	4,286	3,000 20
Iron	1,460	1,366	1,051 82	1,460	1,366	956 20
Isabella	6,529	6,483	b 5,098 31	6,529	6,483	4,538 10
Jackson	12,796	12,796	9,852 92	12,796	12,796	8,957 20
Kalamazoo	11,302	11,302	8,702 54	11,302	11,302	7,911 40
Kalkaska	1,512	1,512	1,164 24	1,512	1,512	d 1,094 88
Kent	34,513	34,481	26,550 37	34,513	34,481	24,136 70
Keweenaw	876	876	674 52	876	876	613 20
Lake	1,613	1,574	1,211 98	1,613	1,574	1,101 80
Lapeer	9,467	9,467	7,289 59	9,467	9,467	6,626 90
Leelanau	2,932	2,874	2,212 98	2,932	2,874	2,011 80
Lenawee	13,597	13,521	10,411 17	13,597	13,521	9,464 70
Livingston	5,894	5,871	4,520 67	5,894	5,871	4,109 70
Luce	499	499	384 23	499	499	349 30
Mackinac	1,949	1,932	1,487 64	1,949	1,932	1,352 40
Macomb	10,640	10,640	8,192 80	10,640	10,640	7,448 00

TABLE II.—CONTINUED.

Counties.	Apportionment, May 10, 1893. Rate per capita, 77 cents.			Apportionment Nov. 10, 1893. Rate per capita, 70 cents.		
	Whole No. of children.	No. included in apportionment.	Amount apportioned.	Whole No. of children.	No. included in apportionment.	Amount apportioned.
Manistee	7,492	7,420	$5,713 40	7,492	7,420	$5,194 00
Manitou	281	281	216 37	281	281	196 70
Marquette	12,155	12,038	9,269 26	12,155	12,038	8,426 60
Mason	5,587	5,475	4,215 75	5,587	5,475	3,832 50
Mecosta	6,531	6,419	4,942 63	6,531	6,419	4,493 30
Menominee	6,222	6,212	4,783 24	6,222	6,212	4,348 40
Midland	3,822	3,778	2,909 06	3,822	3,816	e 2,700 46
Missaukee	1,643	1,643	1,265 11	1,643	1,643	1,150 10
Monroe	11,195	11,195	8,620 15	11,195	11,195	7,836 50
Montcalm	10,143	10,143	7,810 11	10,143	10,143	7,100 10
Montmorency	543	543	418 11	543	543	380 10
Muskegon	13,579	13,549	10,432 73	13,579	13,579	9,484 30
Newaygo	6,369	6,358	4,895 66	6,369	6,358	4,450 60
Oakland	11,060	11,060	8,513 89	11,060	11,057	7,739 90
Oceana	5,122	5,108	3,933 16	5,122	5,108	3,575 60
Ogemaw	1,562	1,499	1,154 23	1,562	1,499	1,049 30
Ontonagon	1,242	1,219	938 63	1,242	1,219	853 30
Osceola	5,267	5,267	4,055 59	5,267	5,267	3,686 90
Oscoda	394	378	291 06	394	378	264 60
Otsego	1,296	1,228	945 56	1,296	1,228	859 60
Ottawa	12,780	12,780	9,840 60	12,780	12,780	8,946 00
Presque Isle	1,776	1,544	1,188 88	1,776	1,544	1,080 80
Roscommon	509	496	381 92	509	496	347 20
Saginaw	27,424	27,424	21,061 06	27,424	27,424	f 19,282 22
St. Clair	18,622	18,622	14,338 94	18,622	18,622	13,035 40
St. Joseph	6,995	6,995	5,386 15	6,995	6,995	4,896 50
Sanilac	12,292	12,276	c 9,534 60	12,292	12,276	8,593 20
Schoolcraft	1,637	1,590	1,224 30	1,637	1,590	1,113 00
Shiawassee	9,246	9,246	7,119 42	9,246	9,246	6,472 20
Tuscola	10,767	10,767	8,290 59	10,767	10,767	7,536 90
Van Buren	9,022	9,022	6,946 94	9,022	9,022	6,315 40
Washtenaw	12,584	12,564	9,674 28	12,584	12,564	8,794 80
Wayne	95,155	95,155	73,269 35	95,882	95,882	g 67,677 19
Wexford	3,685	3,673	2,828 21	3,685	3,673	2,571 10

a Includes $110.96 deficiency in May and November, 1892.
b Includes $106.40 deficiency in May and November, 1892.
c Includes $82.08 deficiency in May and November, 1892.
d Includes $96.48 deficiency in May and November, 1892.
e Includes $29.26 deficiency in May, 1892.
f Includes $35.43 deficiency in May, 1892.
g Includes $559.79 deficiency in May, 1892.

TABLE III.—*General school statistics as reported by the school inspectors for the year ending September 4, 1893.*

	No. of townships and cities reporting.	Whole No. of school districts.	No. of districts that maintained school.	No. of graded school districts.	No. of children between 5 and 20 years of age.	No. of children that attend public school.	Average No. of months school.	No. of school houses.				Whole No. of sittings provided in school house.	Estimated value of school property.	Whole No. of days of school.
								Stone.	Brick.	Frame.	Log.			
Totals	1,270	7,165	7,066	585	677,676	455,598	8	74	1,358	5,897	361	570,899	$15,757,921	1,129,244
Alcona	10	29	27	2	1,774	1,272	7.9	.....	.....	20	7	1,340	$16,470	4,256
Alger	6	6	5	.....	319	258	10.	.....	1	6	6	544	16,393	1,000
Allegan	24	184	184	19	12,053	9,201	7.6	1	24	168	.....	12,978	215,382	28,990
Alpena	8	27	26	3	5,991	2,925	5.7	.....	2	43	8	3,093	142,430	2,940
Antrim	15	73	71	5	3,712	2,943	7.2	.....	4	56	14	3,987	82,362	10,259
Arenac	11	33	31	4	2,206	1,509	7.2	.....	1	28	4	2,108	23,830	4,477
Baraga	4	4	4	2	1,289	958	*8.5	.....	.....	12	2	634	25,300	1,364
Barry	17	148	147	5	7,213	6,170	7.9	.....	14	132	2	8,903	167,495	23,151
Bay	16	61	60	6	20,939	9,990	8.1	.....	13	62	3	10,791	429,465	9,674
Benzie	12	48	47	5	2,334	1,590	6.5	.....	.....	48	1	2,508	40,180	6,134
Berrien	23	151	151	15	13,215	10,265	7.9	.....	48	114	.....	12,405	348,490	23,878
Branch	17	130	129	6	6,958	5,546	8.3	11	42	79	.....	8,411	216,750	21,368
Calhoun	23	164	164	8	12,538	9,336	8.5	6	38	135	.....	12,698	528,250	27,846
Cass	16	115	115	5	5,935	4,719	8.3	.....	27	88	.....	7,201	156,215	18,969
Charlevoix	16	70	68	5	3,330	2,514	6.8	.....	3	61	7	4,115	71,727	9,305
Cheboygan	15	54	52	3	4,518	2,585	6.5	.....	2	43	13	3,173	51,085	6,763
Chippewa	13	42	42	3	3,911	2,585	6.8	.....	2	23	19	2,823	64,210	5,721
Clare	14	42	40	3	2,390	1,655	7.1	.....	2	33	6	2,595	54,463	5,653
Clinton	16	129	129	8	7,878	5,693	8.3	.....	34	96	.....	8,267	152,831	21,264
Crawford	9	39	34	1	744	555	6.1	.....	.....	33	4	1,491	29,065	4,142
Delta	14	39	37	4	4,960	2,904	7.8	.....	2	33	11	2,767	91,970	5,777
Dickinson	8	9	9	4	4,004	2,946	9.2	1	1	18	.....	2,721	119,266	1,669
Eaton	18	148	148	11	9,142	7,452	8.	.....	45	113	.....	10,103	201,043	23,728
Emmet	12	59	58	2	2,762	1,830	6.5	.....	1	46	13	3,000	49,191	7,524
Genesee	20	159	159	12	11,358	8,733	8.3	.....	23	144	.....	11,741	326,260	26,448
Gladwin	11	27	27	1	1,337	949	6.9	.....	.....	16	11	1,310	20,185	3,712
Gogebic	6	8	8	3	3,323	2,288	9.3	.....	2	16	.....	2,407	95,500	1,498
Grand Traverse	14	65	65	5	4,608	3,329	7.1	.....	4	67	1	4,856	115,650	9,177
Gratiot	18	131	130	10	9,099	7,280	8.	.....	10	119	2	9,097	158,945	20,869
Hillsdale	19	167	167	11	8,317	6,581	8.	9	58	105	.....	10,293	220,095	26,727
Houghton	12	34	31	15	13,808	7,393	9.1	1	2	31	4	7,704	156,305	5,638

Huron	27	111	111	11	11,754	7,131	8.6		10	92	10	8,006	101,605	18,985
Ingham	17	136	136	10	11,757	9,703	8.5		45	104		10,267	285,760	23,069
Ionia	18	143	143	12	9,984	7,462	8.2	1	31	119		10,862	222,230	23,481
Iosco	12	27	26	4	4,129	2,802	7.7			31	3	2,872	39,200	4,004
Iron	8	13	12	3	1,507	1,113	9.1			14	5	1,300	37,893	2,188
Isabella	16	100	99	4	6,612	4,657	7.7		9	85	8	6,181	88,580	15,256
Isle Royal														
Jackson	20	159	159	10	12,684	9,167	8.5	1	58	112		12,006	349,450	27,187
Kalamazoo	17	138	138	9	11,361	7,447	8.		36	109		10,398	458,850	22,168
Kalkaska	12	52	50	2	1,527	1,236	7.		1	48	3	2,312	40,075	7,003
Kent	25	209	208	16	36,005	22,247	8.4		67	174	3	27,804	1,365,020	35,000
Keweenaw	5	7	7	2	925	566	8.5			8	1	1,028	16,900	1,187
Lake	12	44	37	3	1,594	1,251	7.2		2	37	1	2,083	29,965	5,239
Lapeer	19	136	136	13	9,428	7,237	8.5	1	14	122		10,141	167,200	23,124
Leelanau	11	54	54	2	2,960	1,930	6.5	1	1	45	6	2,736	33,590	6,962
Lenawee	24	199	199	17	13,640	9,809	8.4	8	99	102		13,675	396,950	33,448
Livingston	16	135	135	4	5,866	4,808	8.4	3	15	120		7,328	131,125	22,716
Luce	4	4	3	1	597	439	9.1			8	3	620	12,150	545
Mackinac	11	33	31	3	2,049	1,473	6.3		1	17	16	2,030	30,465	3,870
Macomb	15	112	112	11	10,638	6,275	8.3		19	99		8,601	215,092	18,683
Manistee	13	54	53	7	8,191	4,591	7.4		3	50	4	5,235	143,434	7,816
Manitou	3	4	4		253	171	6.			2	2	550	1,150	480
Marquette	17	21	17	9	12,257	8,050	10.4	3	4	38	7	7,511	309,300	3,551
Mason	14	55	55	5	5,726	3,920	7.7		6	55	3	4,466	145,412	8,448
Mecosta	17	98	96	6	6,687	4,966	7.9		4	90	5	6,557	114,340	15,020
Menominee	10	37	37	6	6,866	4,190	8.6		6	30	12	4,272	119,049	6,370
Midland	16	62	58	4	4,006	2,921	7.5		5	48	11	3,638	71,945	8,746
Missaukee	12	46	44	4	1,794	1,321	7.2		1	42	3	2,319	35,523	6,301
Monroe	16	140	139	6	10,967	7,051	8.	2	68	72		8,961	171,700	22,159
Montcalm	22	138	138	12	10,353	7,763	8.3		8	127	4	10,592	173,010	22,831
Montmorency	7	13	10	1	487	430	7.6			9	13	572	11,500	1,514
Muskegon	19	92	90	9	13,798	9,001	7.4	1	20	85	5	10,647	577,471	13,324
Newaygo	22	111	106	6	6,153	4,473	7.8		6	93	7	6,312	94,145	16,610
Oakland	26	212	209	18	10,995	8,450	8.1	13	36	169		13,714	306,075	33,943
Oceana	16	86	86	5	5,156	3,835	7.6		7	77	2	5,321	90,765	13,067
Ogemaw	15	43	41	1	1,662	1,194	6.8		1	36	5	1,827	25,055	5,614
Ontonagon	7	9	9	3	1,361	1,045	†9.5			18	4	1,780	19,600	2,098
Osceola	16	92	90	8	5,381	3,932	7.6		1	90	3	5,271	65,810	13,668
Oscoda	8	27	24		398	316	5.1			16	9	685	8,034	2,465
Otsego	9	41	38	3	1,296	952	7.1		1	36	2	2,001	31,508	5,417
Ottawa	17	120	120	19	12,915	9,189	8.	2	22	106		10,901	200,525	20,085
Presque Isle	11	34	28	1	1,797	848	4.7			12	24	1,930	18,340	2,611
Roscommon	8	14	12	2	465	350	4.9			6	7	617	7,500	1,173
Saginaw	30	156	155	16	27,060	16,467	8.4		35	133	5	18,422	700,047	25,983
St. Clair	26	153	152	8	17,947	11,070	8.3		29	139	3	13,810	354,316	25,062
St. Joseph	16	124	124	9	6,945	5,580	8.2	1	35	92		8,784	237,000	20,392

TABLE III.—CONTINUED.

	No. of townships and cities reporting.	Whole No. of school districts.	No. of districts that maintained school.	No. of graded school districts.	No. of children between 5 and 20 years of age.	No. of children that attend public school.	Average No. of months school.	No. of school houses.				Whole No. of sittings provided in school houses.	Estimated value of school property.	Whole No. of days of school.
								Stone.	Brick.	Frame.	Log.			
Sanilac	26	142	141	22	12,221	8,690	8.7	1	12	125	6	10,567	$117,410	24,650
Schoolcraft	8	19	19	1	1,719	1,099	6.5	.....	.....	19	8	1,874	30,340	2,478
Shiawassee	18	127	127	10	9,358	7,127	8.4	.....	23	111	1	9,753	240,040	21,398
Tuscola	23	143	143	12	11,066	8,110	8.4	.....	19	127	1	10,146	165,924	24,020
Van Buren	18	152	151	16	8,978	7,168	8.1	.....	24	128	.....	10,904	218,270	24,376
Washtenaw	22	168	168	9	12,385	8,934	8.2	7	65	106	.....	11,631	461,985	27,659
Wayne	20	154	154	20	90,120	48,906	8.6	.....	102	113	.....	89,208	1,975,946	26,373
Wexford	16	71	68	4	3,981	2,781	7.1	.....	2	62	8	4,307	106,549	9,628

* In securing this average eight districts are counted, four of which are subdivisions of township unit districts.
† In securing this average eleven districts are counted, two of which are subdivisions of township unite districts.

TABLE IV.

Employment of teachers as reported by school inspectors for the year ending September 4, 1883.

Counties.	No. of teachers required.		No. of teachers employed.		Aggregate No. of months taught.		Total wages of teachers.			Average monthly wages.		No. of township unit districts.
	Graded schools.	Ungraded schools.	Men.	Women.	Men.	Women.	Men.	Women.	Total.	Men.	Women.	
Totals	5,017	6,602	3,300	13,005	19,609	81,483	$958,858 03	$2,800,047 53	$3,758,905 56	$48 90	$34 36	57
Alcona	6	27	13	21	96	150	$4,553 00	$5,026 50	$9,579 50	$47 43	$33 51	.....
Alger	.....	6	5	9	36	59	1,837 00	2,765 00	4,602 00	51 03	46 86	5
Allegan	71	155	86	319	432	1,523	18,359 84	41,142 80	59,502 14	42 51	27 01	.....
Alpena	40	25	6	36	35	556	3,150 00	18,719 00	21,869 00	90 00	33 67	5
Antrim	26	69	42	92	217	485	8,809 87	15,438 00	24,247 87	40 60	31 83	1
Arenac	11	20	8	43	40	257	1,825 00	7,849 70	9,684 70	45 88	28 98	.....
Baraga	15	4	5	17	47	142	3,750 00	6,540 00	10,290 00	79 79	46 06	4
Barry	43	143	81	287	968	1,085	13,889 63	28,266 54	42,156 17	37 47	26 05	.....
Bay	162	57	29	201	247	1,837	18,741 75	74,812 57	93,554 32	75 88	40 73	1
Benzie	17	44	16	71	72	376	3,204 50	11,833 00	15,037 50	44 51	31 47	.....
Berrien	113	136	72	251	436	1,674	25,126 87	54,137 72	76,264 59	50 53	32 94	.....
Branch	53	125	71	236	362	1,194	14,448 70	32,043 69	46,492 39	39 91	27 68	.....
Calhoun	113	158	70	338	377	2,025	17,269 86	64,738 40	82,008 26	45 81	31 97	.....
Cass	40	110	65	185	380	906	14,936 34	26,340 25	41,326 59	39 44	29 01	.....
Charlevoix	21	65	16	108	89	540	5,015 62	15,239 15	20,254 77	56 35	28 22	.....
Cheboygan	24	51	19	60	140	407	6,983 50	13,973 53	20,956 03	49 89	34 33	.....
Chippewa	28	88	16	50	115	371	5,108 75	14,238 80	19,347 55	44 42	38 38	2
Clare	14	39	12	66	55	360	2,565 51	10,903 50	13,469 01	46 65	30 29	.....
Clinton	41	122	55	217	296	1,115	13,160 89	30,986 80	43,147 69	41 22	27 79	.....
Crawford	8	38	7	56	29	250	1,550 00	7,629 50	9,179 50	53 45	30 52	.....
Delta	24	35	9	56	80	435	5,796 00	16,351 75	22,147 75	72 45	37 59	2
Dickinson	50	5	7	50	69	433	6,000 00	23,601 75	29,601 75	86 96	46 79	6
Eaton	66	138	78	280	332	1,366	16,480 66	40,878 81	57,359 47	43 09	29 93	.....
Emmet	21	57	19	85	100	461	4,398 70	14,415 85	18,814 55	43 99	31 27	.....
Genesee	84	148	77	288	466	1,602	18,830 09	46,567 65	65,397 64	40 39	29 07	.....
Gladwin	4	26	9	41	47	174	1,908 50	5,354 00	7,262 50	40 61	30 77	.....
Gogebic	37	4	7	42	54	401	5,365 50	19,637 50	25,003 00	99 36	48 97	2
Grand Traverse	36	60	24	103	129	611	6,986 75	20,923 11	27,859 86	53 47	34 25	.....

TABL IV.—CONTINUED.

Counties.	No. of teachers required.		No. of teachers employed.		Aggregate No. of months taught.		Total wages of teachers.			Average monthly wages.		No. of township unit districts.
	Graded schools.	Ungraded schools.	Men.	Women.	Men.	Women.	Men.	Women.	Total.	Men.	Women.	
Gratiot	51	121	9	205	398	1,056	$14,987 24	$29,698 03	$44,685 27	$37 66	$28 12	------
Hillsdale	51	158	102	304	464	1,312	18,265 80	31,765 66	50,031 46	39 37	24 21	------
Houghton	140	19	24	159	231	1,381	21,720 00	61,436 78	83,156 78	94 02	44 48	1
Huron	85	100	47	98	403	802	16,431 65	23,304 80	39,736 45	40 77	29 06	------
Ingham	99	126	81	287	380	1,624	18,227 91	51,168 91	69,396 82	47 97	31 51	------
Ionia	79	132	72	226	435	1,413	17,617 61	42,595 13	60,212 74	40 50	30 14	------
Iosco	35	23	12	56	77	431	5,155 00	16,429 80	21,584 80	66 95	38 12	------
Iron	19	11	3	29	30	252	2,900 00	11,655 00	14,555 00	96 67	46 25	7
Isabella	20	97	45	142	231	702	8,402 80	21,659 05	30,061 85	36 37	30 85	------
Jackson	113	149	89	337	467	1,929	20,804 87	61,221 80	82,026 67	44 55	31 74	------
Kalamazoo	107	129	55	301	311	1,768	15,028 50	57,172 60	72,201 10	48 32	32 34	------
Kalkaska	8	50	17	75	84	323	3,596 50	9,857 50	13,454 00	42 82	30 52	------
Kent	369	193	98	629	640	4,464	33,629 36	200,234 84	233,864 20	52 55	46 61	------
Keweenaw	5	5	6	5	51	34	3,535 00	1,541 25	5,076 25	69 31	45 38	2
Lake	10	41	13	55	70	271	2,658 00	7,967 00	10,625 00	37 97	29 40	------
Lapeer	59	123	57	167	430	1,177	17,513 96	30,902 91	48,416 87	40 73	26 25	------
Leelanau	6	52	16	70	83	395	3,075 25	8,982 25	12,057 50	37 05	30 45	------
Lenawee	108	183	111	349	617	1,981	27,547 88	54,765 53	82,313 41	44 65	27 60	------
Livingston	32	131	75	226	356	1,072	12,879 32	23,450 00	36,329 32	36 18	21 88	------
Luce	8	3	4	14	32	94	2,050 00	3,420 00	5,470 00	64 06	36 38	4
Mackinac	16	30	5	52	41	294	2,522 75	10,007 18	12,529 93	61 53	34 04	2
Macomb	59	102	40	141	323	1,117	15,508 56	31,588 05	47,096 61	48 01	28 37	------
Manistee	76	47	20	121	156	907	8,943 65	35,189 87	44,133 52	57 38	38 80	------
Manitou		4		5		24		618 00	618 00		25 75	------
Marquette	129	12	21	134	185	1,267	17,027 50	64,502 28	81,529 78	92 04	50 91	10
Mason	51	52	19	108	121	757	6,221 00	27,271 63	33,492 63	51 41	36 03	------
Mecosta	36	92	30	161	168	873	7,258 50	28,059 20	35,317 70	43 21	32 14	------
Menominee	44	33	13	81	87	687	5,558 75	28,954 30	34,513 05	63 90	42 15	3
Midland	18	59	11	92	64	519	2,783 50	15,204 50	17,948 00	43 79	29 30	------
Missaukee	10	42	17	43	128	244	5,234 53	8,298 35	13,532 88	40 90	34 01	------
Monroe	38	135	85	212	435	1,034	16,607 22	26,461 40	43,068 62	38 18	25 59	------
Montcalm	67	136	53	262	296	1,398	12,624 91	39,701 72	52,326 63	42 65	28 60	------
Montmorency	4	12	10	16	69	105	2,456 00	3,119 25	5,575 25	35 60	29 71	4

Muskegon	152	83	44	236	288	1,871	13,676 00	69,716 62	25,392 62	64 85	37 32	------
Newaygo	25	105	39	168	200	792	8,358 00	22,068 50	30,426 50	41 79	27 86	------
Oakland	88	194	81	314	505	1,808	23,681 50	48,856 90	72,538 40	46 90	25 74	------
Oceana	21	82	44	118	230	533	9,126 52	17,237 55	26,364 17	39 73	29 58	------
Ogemaw	5	42	10	49	73	251	2,949 00	8,056 00	11,005 00	40 96	32 10	------
Ontonagon	14	6	9	23	60	206	4,850 00	9,625 00	14,475 00	80 83	46 72	3
Osceola	35	84	25	135	163	776	7,227 50	23,792 40	31,019 90	44 34	30 66	------
Oscoda	------	27	6	34	27	96	317 00	3,593 30	3,410 30	30 26	28 46	------
Otsego	9	38	12	53	70	258	2,800 00	7,715 50	10,525 50	40 14	29 91	------
Ottawa	92	104	54	198	369	1,340	18,248 49	41,017 98	59,266 47	49 45	30 61	------
Presque Isle	2	33	19	16	86	68	2,897 00	2,028 00	4,865 00	33 00	29 84	1
Roscommon	5	13	3	13	27	60	1,175 25	1,878 00	3,053 25	43 53	31 30	------
Saginaw	256	140	70	390	498	3,204	35,556 20	112,163 90	147,720 29	71 68	35 01	------
St. Clair	96	145	44	262	318	1,804	15,519 75	54,763 30	70,282 05	48 80	30 36	------
St. Joseph	68	115	81	225	268	1,236	16,599 00	33,083 87	49,682 87	45 11	26 69	------
Sanilac	45	120	78	122	587	871	21,593 10	21,720 88	43,313 98	36 79	24 68	------
Schoolcraft	13	18	13	36	69	220	4,137 00	9,346 50	13,483 50	59 96	42 48	3
Shiawassee	74	115	68	232	374	1,324	17,208 25	37,108 05	54,416 30	46 28	28 03	------
Tuscola	48	131	60	196	391	1,176	15,601 10	30,656 80	46,257 90	39 90	26 07	------
Van Buren	69	136	73	224	457	1,267	18,784 50	35,369 78	54,154 28	41 10	27 92	------
Washtenaw	113	159	81	301	497	1,922	29,291 30	59,647 15	88,938 45	58 94	31 03	------
Wayne	689	137	104	781	800	7,149	63,727 93	391,209 76	454,937 69	79 66	54 72	------
Wexford	32	68	18	115	103	665	5,212 00	23,844 75	28,056 75	50 60	34 35	------

TABLE V.—*Resources of school districts as reported by school inspectors for the year ending September 4, 1893.*

Counties.	Ordinary receipts.							Received from loans.	Moneys on hand Sept. 5, 1892.	Total resources, including amount on hand and loans.
	One-mill tax.	Primary school interest fund.	Library moneys.	Tuition of non-resident pupils.	District taxes for all purposes.	Raised from all other sources.	Total net receipts.			
Totals	$659,569 29	$1,027,764 42	$99,728 45	$69,216 61	$3,929,435 80	$263,612 61	$6,049,322 18	$378,349 49	$1,346,259 33	$7,773,931 00
Alcona	$520 21	$2,617 23	$2 90	$2 00	$11,052 45	$364 30	$14,559 09	$100 00	$4,333 48	$18,992 57
Alger	780 02	289 16			7,268 32		8,337 50		1,151 96	9,488 86
Allegan	13,021 24	19,370 30	458 02	1,826 42	48,920 18	2,250 15	85,846 31	2,475 79	22,405 15	110,727 25
Alpena	291 23	8,395 31	293 18		30,640 53	2,669 21	42,289 46	99 12	1,494 27	43,882 85
Antrim	2,442 26	5,659 64	67 28	85 65	28,634 09	867 32	37,756 24	2,992 23	9,878 76	50,627 23
Arenac	306 56	3,163 63		18 15	12,236 67	514 54	16,234 55	25 00	2,541 08	18,800 63
Baraga	650 43	1,852 58			15,812 67	379 99	18,695 67	3,588 77	2,466 85	24,701 29
Barry	9,368 10	11,208 98	837 07	1,213 88	32,615 93	1,184 65	56,428 56	4,544 80	10,673 59	71,646 95
Bay	5,922 06	32,103 37	297 99	655 14	114,395 45	6,599 86	159,973 87	3,504 00	35,855 46	199,333 33
Benzie	1,317 24	2,045 14	240 80	21 75	18,542 18	2,244 83	24,411 94	588 79	5,402 87	30,403 60
Berrien	14,783 79	18,856 42	594 28	1,685 49	78,470 84	5,942 57	120,283 39	10,202 35	33,280 26	163,766 00
Branch	12,304 25	10,976 16	204 19	1,192 04	41,704 51	1,845 55	68,226 70	349 06	22,470 05	91,045 81
Calhoun	16,884 43	19,541 76	542 23	2,447 05	88,010 04	4,347 88	131,773 39	14,024 92	15,586 11	161,384 42
Cass	12,356 09	9,041 64	332 18	1,006 78	29,590 94	1,281 94	53,609 52	11,998 70	13,569 18	79,177 40
Charlevoix	1,886 23	4,906 77	36 42	185 13	22,389 09	692 70	30,546 84	2,253 30	9,434 24	42,233 88
Cheboygan	2,396 57	5,792 57	371 50	18 43	25,540 99	1,294 39	35,414 45	4,018 73	4,591 34	44,019 52
Chippewa	2,662 97	5,591 45	176 65	118 42	19,329 28	4,501 55	32,440 32	15,170 95	4,824 24	52,435 51
Clare	848 47	2,618 48	14 42	17 20	20,073 59	522 16	24,094 32	600 00	8,586 19	33,280 51
Clinton	13,545 56	12,971 02	314 60	1,291 07	33,364 17	1,698 18	63,184 60	700 11	16,484 14	80,368 85
Crawford	541 82	1,049 09	24 39	5 75	11,444 83	381 55	13,446 93	22 08	6,830 66	20,299 67
Delta	1,987 98	7,078 54	471 51	2 25	31,282 50	3,464 39	44,287 17	6,174 71	8,775 61	59,237 49
Dickinson	5,474 90	8,357 96	900 23	66 32	46,934 79		61,734 20	2,500 00	21,777 04	86,011 24
Eaton	15,351 98	18,973 22	242 53	2,465 24	49,825 16	2,857 11	84,715 19	3,309 48	13,678 15	101,697 82
Emmet	1,420 69	3,068 32	19 80	116 74	23,313 70	384 60	28,323 85	1,726 17	3,177 38	33,227 40
Genesee	18,418 98	17,881 84	849 69	1,987 11	61,088 43	2,491 46	102,717 46	2,867 14	14,552 51	120,137 11
Gladwin	1,012 71	1,440 58			8,616 48	83 69	11,153 46	700 00	2,856 22	14,709 68
Gogebic	1,158 73	3,179 38	209 04		56,580 15	4,731 28	66,858 58	19,800 00	13,923 93	100,082 51
Grand Traverse	3,818 71	6,324 79	237 43	724 97	39,670 63	1,207 78	51,984 31	6,727 48	9,803 09	68,514 88
Gratiot	9,467 16	13,911 78	439 58	1,020 48	43,186 17	2,219 87	70,245 04	15,916 07	11,825 73	97,986 84
Hillsdale	16,652 10	12,965 59	635 44	1,808 42	33,761 23	1,908 45	67,731 23	3,764 12	12,868 24	84,363 59
Houghton	39,592 12	20,143 40	875 87	572 55	65,882 51	13,423 39	140,489 84	7,450 00	62,408 12	210,347 96
Huron	6,498 58	18,323 60	223 75	168 45	31,277 08	642 01	57,133 47	1,110 55	11,238 25	69,482 27
Ingham	18,830 60	13,734 67	787 13	2,866 48	75,226 24	2,232 71	113,177 78	4,788 45	38,340 35	156,301 58
Ionia	14,130 47	14,500 77	756 57	3,106 19	49,771 29	2,284 60	84,499 89	3,109 84	19,127 87	106,737 60
Iosco	1,017 23	6,990 87	289 88	16 00	24,552 16	415 00	33,231 14	3,473 26	11,204 40	47,908 80
Iron	4,288 76	1,683 98			30,382 00	1,206 74	37,511 43	1,715 71	2,576 42	41,803 56
Isabella	5,372 97	10,099 23	88 00	88 99	26,813 50	3,122 88	45,585 56	1,964 25	8,977 80	56,467 61

Jackson	23,769 83	19,890 73	914 63	2,168 03	69,631 63	2,198 18	117,567 53	12,422 93	16,072 19	146,063 65
Kalamazoo	18,811 76	17,861 76	2,314 46	2,410 62	83,357 06	1,302 15	125,457 80	729 91	11,280 56	137,448 27
Kalkaska	2,282 41	2,571 41	106 74	100 65	15,394 68	838 80	21,944 69	1,400 00	5,521 69	28,866 38
Kent	33,447 21	50,189 58	6,196 28	2,784 00	272,150 95	11,297 66	376,065 63	6,866 13	199,744 01	582,675 77
Keweenaw	1,696 38	1,252 51	38 72	----------	3,697 29	18 50	6,700 38	----------	4,399 35	11,099 68
Lake	1,188 11	2,542 33	70 24	13 50	13,235 22	1,552 26	18,496 66	226 69	4,459 45	23,382 80
Lapeer	11,131 96	14,938 03	338 34	1,585 62	39,169 57	1,594 66	68,708 18	1,322 39	14,392 34	84,422 91
Leelanau	997 25	4,449 09	71 80	52 50	11,642 04	173 55	17,385 83	131 94	3,327 65	20,845 42
Lenawee	24,772 56	20,839 82	1,951 58	3,696 94	60,324 76	3,232 82	114,838 45	3,139 75	23,194 01	141,152 24
Livingston	12,100 98	9,426 98	648 17	1,380 94	29,027 62	1,370 29	53,954 93	1,660 09	8,946 03	64,561 05
Luce	993 46	419 72	----------	----------	10,394 75	1,403 95	13,211 88	----------	1,808 10	15,019 98
Mackinac	496 63	2,854 22	14 99	----------	18,791 57	1,872 29	24,081 70	4,890 36	4,431 57	33,353 63
Macomb	15,217 41	16,807 69	1,095 53	1,511 81	27,226 07	1,232 62	63,091 13	7,294 61	13,584 37	83 970 11
Manistee	2,154 58	11,599 38	718 94	145 65	53,713 84	612 57	68,944 96	350 00	8,479 32	77,774 28
Manitou	50 32	465 24	----------	----------	498 85	----------	1,014 41	----------	12 87	1,027 28
Marquette	14,981 03	18,957 70	1,165 98	14 00	107,013 47	1,661 72	143,742 90	3,331 26	24,312 10	171,486 26
Mason	1,291 80	8,308 19	141 66	145 72	44,751 96	4,900 32	59,539 65	1,770 83	4,923 62	66,233 10
Mecosta	3,590 09	9,458 24	306 98	163 98	31,142 25	1,198 13	45,859 57	56 10	20,348 27	66,263 94
Menominee	4,884 41	6,196 38	292 08	----------	44,294 58	3,795 21	59,462 61	30,059 03	16,246 05	105,767 69
Midland	2,013 73	5,110 99	----------	200 21	19,669 19	1,012 96	28,007 08	50 00	10,813 18	38,870 26
Missaukee	1,517 58	2,197 55	43 00	8 75	19,798 67	949 89	24,510 44	1,328 00	5,152 64	30,991 08
Monroe	15,297 87	17,878 54	947 50	917 97	26,971 16	1,530 83	63,543 87	3,306 14	11,502 66	78,352 67
Montcalm	6,530 10	13,805 72	208 10	732 09	39,877 66	2,329 07	63,482 74	4,458 46	26,199 55	94,140 75
Montmorency	939 84	513 80	----------	----------	5,802 77	2,009 25	9,265 66	1,200 00	3,711 78	14,177 39
Muskegon	7,647 61	20,744 86	239 20	375 23	107,186 37	57,394 63	193,577 90	17,282 63	20,440 83	231,251 36
Newaygo	3,944 68	7,675 35	3 37	127 87	31,209 10	3,325 63	46,286 00	113 02	13,025 80	59,424 82
Oakland	19,859 76	16,475 38	628 91	3,170 46	57,114 53	3,490 67	100,739 71	9,882 46	14,030 81	124,652 98
Oceana	3,163 93	7,703 32	7 42	250 80	23,950 45	1,302 43	36,378 35	187 20	19,668 85	56,234 40
Ogemaw	713 40	2,055 23	9 04	3 28	12,797 03	276 24	15,854 32	375 00	4,334 71	20,464 03
Ontonagon	1,081 66	1,096 98	336 49	----------	18,428 14	1,055 50	21,998 77	7,121 10	2,592 09	31,711 96
Osceola	3,111 00	8,172 97	120 58	160 12	30,084 63	1,563 93	43,163 23	1,165 18	9,616 34	53,944 75
Oscoda	208 66	411 91	45 82	----------	2,948 90	367 27	3,977 56	73 86	1,878 90	5,930 32
Otsego	884 69	1,753 25	220 80	12 00	11,413 20	756 36	15,040 30	755 00	5,983 15	21,778 45
Ottawa	9,204 19	19,693 30	64 45	426 11	48,909 99	2,289 61	80,587 65	17,392 94	12,453 96	110,434 55
Presque Isle	368 26	2,333 32	41 00	8 75	5,443 83	78 15	8,272 41	68 76	1,736 59	10,077 76
Roscommon	542 04	763 44	3 30	----------	3,395 77	4 00	4,708 55	----------	1,754 18	6,462 73
Saginaw	9,316 48	43,628 57	1,243 28	697 85	190,769 57	5,518 63	251,169 43	3,450 00	40,094 85	294,714 28
St. Clair	14,242 51	29,064 57	548 65	657 74	60,157 04	8,945 61	113,616 12	39,916 10	11,450 51	164,982 73
St. Joseph	13,001 16	10,985 51	145 48	2,803 93	42,956 88	2,731 26	72,124 17	9,162 86	9,154 65	90,441 18
Sanilac	7,101 18	19,112 38	290 24	337 10	35,706 25	6,274 81	68,762 06	6,830 93	12,808 42	88,401 41
Schoolcraft	2,605 22	2,464 14	99 26	----------	20,221 07	1,066 02	26,455 71	15	2,713 49	29,169 35
Shiawassee	9,079 95	14,892 60	413 44	1,955 12	53,109 28	9,638 60	88,578 99	990 80	22,444 22	112,013 51
Tuscola	8,109 83	16,927 37	248 65	1,093 32	42,433 76	2,934 42	71,747 35	2,931 76	18,231 93	92,911 04
Van Buren	11,737 77	13,341 95	432 51	2,664 14	42,026 74	1,435 39	71,639 50	2,334 13	15,300 66	89,824 29
Washtenaw	26,299 13	20,157 97	1,026 19	7,727 58	69,109 80	5,661 73	129,982 70	4,940 68	11,540 86	146,464 24
Wayne	26,084 54	153,613 47	64,359 60	2,839 36	542,506 41	16,155 08	805,558 46	2,821 20	135,795 79	944,175 45
Wexford	3,237 04	4,957 97	----------	187 03	41,709 91	1,059 58	51,151 53	384 18	17,401 04	68,936 75

TABLE VI.—*Expenditures of school districts as reported by school inspectors for the year ending Sept. 4, 1893.*

Counties.	Ordinary expenditures.						Paid on indebtedness (principal).	Amount on hand Sept. 5, 1892.	Total expenditures including amount on hand and paid on indebtedness.
	Paid teachers.	Paid for buildings and repairs.	Paid for library books and care of library.	Paid interest on loans.	Paid for all other purposes.	Total net expenses.			
Totals	$3,758,786 80	$923,582 62	$81,816 93	$116,786 28	$1,181,674 03	$6,062,646 66	$359,331 59	$1,351,952 75	$7,773,931 00
Alcona	$9,579 50	$328 83		$195 89	$2,929 19	$13,533 41	$741 79	$4,717 37	$18,992 57
Alger	4,552 00	474 17		80 00	2,246 23	7,352 40	1,175 80	960 66	9,488 86
Allegan	59,457 13	7,746 91	$175 25	1,302 97	13,669 26	82,351 55	5,007 27	23,368 43	110,727 25
Alpena	21,029 00	7,322 83	580 82	498 10	10,783 20	40,213 95	584 10	3,084 80	43,882 85
Antrim	24,116 13	4,249 65		1,331 09	7,559 83	37,256 69	4,340 09	9,030 45	50,627 23
Arenac	9,558 70	609 33		417 49	2,806 77	13,392 29	2,466 05	2,942 29	18,800 63
Baraga	10,290 00	1,992 36	180 00	213 03	6,763 77	19,389 16	3,075 00	2,237 13	24,701 29
Barry	42,169 42	3,357 46	140 65	539 15	11,474 56	57,181 24	3,066 63	11,899 08	71,646 95
Bay	98,299 59	30,512 50	296 18	6,497 35	38,546 19	164,151 81	3,548 83	31,632 69	199,333 33
Benzie	15,102 50	4,349 11	3 50	532 56	5,413 50	25,301 17	1,220 57	3,881 86	30,403 60
Berrien	76,264 34	32,170 71	240 16	2,030 14	20,856 60	131,591 95	6,695 93	25,478 12	163,766 00
Branch	46,494 14	4,688 14	297 87	1,892 14	11,336 25	64,708 64	3,406 96	22,930 21	91,045 81
Calhoun	82,067 36	27,343 01	999 90	1,247 32	31,359 11	142,956 70	2,347 78	16,079 99	161,384 42
Cass	41,398 59	7,623 00	115 58	1,201 92	10,719 22	61,058 31	7,900 86	10,818 23	79,177 40
Charlevoix	20,255 27	3,990 84	59 00	1,746 87	6,335 42	31,487 40	2,972 62	7,773 86	42,233 88
Cheboygan	20,918 08	5,147 94	158 75	335 73	7,520 04	34,075 49	3,335 60	6,558 43	41,019 52
Chippewa	19,405 55	17,489 15	200 38	1,359 98	7,441 84	45,896 90	2,610 78	3,927 83	52,435 51
Clare	13,371 17	1,723 61	87 50	835 45	6,530 71	22,498 44	106 00	10,676 07	33,280 51
Clinton	43,177 62	3,042 91	220 64	1,027 36	10,614 55	58,083 08	3,742 73	18,543 04	80,368 85
Crawford	9,011 50	485 52	141 07	100 41	3,228 81	12,967 31	1,128 08	6,204 28	20,299 67
Delta	22,147 75	1,814 52	245 65	2,560 28	9,026 20	35,794 40	13,371 10	10,071 99	59,237 49
Dickinson	28,601 75	18,941 72	1,063 84	3,936 08	14,711 81	67,255 20	7,800 00	10,956 04	86,011 24
Eaton	57,405 97	7,982 50	260 82	766 47	15,567 58	81,783 34	4,129 78	15,784 75	101,697 82
Emmet	18,823 55	2,665 66	428 05	1,049 25	5,061 35	28,027 86	1,189 44	4,010 10	33,227 40
Genesee	65,406 74	7,393 74	808 67	2,814 47	17,171 81	93,595 43	7,458 78	19,082 90	120,137 11
Gladwin	7,367 05	988 75		149 52	1,882 60	10,287 92	457 24	3,964 52	14,709 68
Gogebic	25,003 00	24,709 89	276 06	2,475 51	12,758 57	65,223 03	11,200 00	23,659 48	100,082 51
Grand Traverse	27,859 86	2,991 26	161 85	1,675 49	8,851 85	41,540 31	13,006 80	13,967 77	68,514 88
Gratiot	44,641 13	16,181 71	345 75	2,155 08	9,747 80	73,071 47	8,010 32	16,905 05	97,986 84
Hillsdale	49,946 97	3,430 87	207 77	404 16	10,838 46	64,828 23	5,822 97	13,712 39	84,363 59
Houghton	83,156 78	12,901 76	1,378 93	1,287 28	30,405 69	129,130 44	12,520 00	68,697 52	210,347 96
Huron	39,736 45	3,659 29	167 78	1,031 04	9,076 24	53,670 90	3,070 98	12,740 39	69,482 27
Ingham	69,390 16	20,426 95	1,047 84	3,666 14	23,621 17	117,161 76	5,389 86	33,749 96	156,301 58
Ionia	60,226 97	7,985 86	221 42	692 19	12,985 50	82,064 44	1,418 33	23,254 83	106,737 60
Iosco	21,535 30	5,991 23	183 34	280 11	7,582 11	35,572 14	2,938 55	9,396 11	47,906 80
Iron	14,205 00	5,285 85	663 87	1,346 60	12,263 55	33,764 87	700 00	7,337 69	41,802 56
Isabella	30,019 85	3,151 57	15 75	1,247 07	7,590 08	42,024 32	2,091 49	12,351 80	56,467 61

Jackson	83,041 89	14,498 90	169 30	1,606 42	28,267 02	126,580 53	5,418 69	14,063 49	146,063 65
Kalamazoo	73,219 69	16,549 60	1,611 63	1,992 64	29,698 79	113,072 25	6,410 67	17,965 35	137,448 27
Kalkaska	13,457 00	1,545 09	27 22	290 71	3,593 44	18,923 46	4,131 23	5,811 69	28,866 38
Kent	238,332 16	99,903 71	10,323 98	20,076 54	76,884 11	440,970 45	27,929 27	113,776 05	582,675 77
Keweenaw	5,076 25	59 85		72 00	1,514 20	6,722 30	50 00	4,327 38	11,099 68
Lake	10,635 00	1,449 81	53 65	28 20	3,124 29	15,280 95	699 33	7,402 52	23,382 80
Lapeer	48,409 32	3,788 49	146 01	1,129 08	11,631 03	65,103 93	5,740 76	13,578 22	84,422 91
Leelanaw	12,057 50	958 52		338 93	1,948 69	15,303 64	2,069 57	3,452 21	20,845 42
Lenawee	82,292 26	8,274 13	2,115 34	961 33	23,348 04	115,911 09	6,732 86	18,508 29	141,152 24
Livingston	36,214 05	4,717 23	50 75	744 30	8,806 56	50,532 88	3,836 54	10,191 63	64,561 05
Luce	5,470 00	974 92	71 25	231 00	5,489 12	12,186 29	100 00	2,733 69	15,019 98
Mackinac	12,653 58	2,077 25	51 99	865 76	2,841 78	18,490 36	9,316 91	5,546 36	33,353 63
Macomb	47,120 11	8,599 54	338 11	412 54	8,906 28	65,376 58	4,263 52	13,330 01	83,970 11
Manistee	44,239 53	3,458 33	673 38	2,448 09	12,191 86	63,011 18	4,762 53	10,000 57	77,774 28
Manitou	618 00	80 42			238 96	937 38		189 90	1,027 28
Marquette	53,063 30	13,895 98	680 03	3,563 94	33,479 00	134,681 25	8,960 27	28,394 74	171,436 26
Mason	33,492 63	4,196 56	108 25	2,584 48	10,004 81	50,986 73	9,991 72	5,254 65	66,233 10
Mecosta	35,364 70	2,359 15	111 69	218 63	8,136 21	46,190 38	1,221 78	18,851 78	66,263 94
Menominee	34,513 05	35,557 11	1,268 98	1,547 06	9,847 11	82,733 30	5,877 16	17,657 23	105,767 69
Midland	18,130 94	402 51	49 12	492 70	5,567 91	24,643 18	3,459 15	10,767 98	38,870 26
Missaukee	13,348 38	2,985 65	53 89	453 09	4,566 77	21,707 78	1,305 58	7,977 72	30,991 08
Monroe	43,065 62	5,623 86	633 92	731 70	11,886 01	61,945 61	2,603 33	13,803 73	78,352 67
Montcalm	52,350 43	4,522 90	109 86	861 59	11,670 75	69,515 53	1,396 29	23,228 93	94,140 75
Montmorency	5,975 20	2,211 93	25 00	159 30	1,767 75	10,139 18	243 37	3,795 84	14,177 39
Muskegon	88,392 62	87,125 21	4,947 40	1,997 95	23,591 56	216,054 74	3,549 41	11,647 21	231,251 36
Newaygo	20,398 50	2,169 28	18 00	346 24	7,399 98	40,832 10	2,101 05	16,491 67	59,424 82
Oakland	72,486 92	16,397 48	187 15	1,072 44	15,557 67	105,701 66	5,708 75	13,247 57	124,652 98
Oceana	26,360 63	9,122 27	55 25	698 79	5,712 13	41,949 13	2,150 60	12,134 68	56,234 40
Ogemaw	10,924 67	751 69	18 30	392 90	1,981 94	14,069 50	687 51	5,707 02	20,464 03
Ontonagon	14,475 00	6,950 99		467 40	4,132 25	26,024 74	2,581 56	3,155 66	31,711 96
Osceola	31,029 40	2,881 16	74 04	555 83	6,877 21	41,417 63	2,980 88	9,546 24	53,944 75
Oscoda	3,395 09	187 16		24 00	427 31	3,983 56	337 00	1,559 76	5,930 32
Otsego	10,535 50	1,558 92	63 96	505 00	3,544 95	16,498 33	338 65	4,941 47	21,778 45
Ottawa	58,766 47	7,837 77	439 95	1,098 72	22,120 58	90,263 49	1,854 86	18,316 20	110,434 55
Presque Isle	4,642 35	255 59	72 37	80 41	1,313 29	6,264 01	1,343 23	2,465 42	10,077 76
Roscommon	3,053 25	117 89		405 12	1,224 04	4,800 30	116 40	1,546 08	6,462 78
Saginaw	147,744 29	13,788 89	1,321 97	2,378 34	51,253 06	216,486 55	9,271 23	68,956 50	294,714 28
St. Clair	70,242 05	29,779 84	548 61	1,333 60	33,309 68	145,263 78	3,816 32	16,402 63	164,982 73
St. Joseph	49,682 37	10,851 52	59 88	695 88	16,791 36	78,082 01	2,873 58	9,485 59	90,441 18
Sanilac	43,433 78	14,153 29	12 14	918 17	11,879 72	70,397 10	3,012 14	14,992 17	88,401 41
Schoolcraft	13,579 45	1,042 57		464 52	4,065 94	19,172 48	2,359 23	7,637 64	29,169 35
Shiawassee	54,464 30	14,016 62	215 13	1,129 57	14,898 14	84,723 76	4,323 47	22,966 28	112,013 51
Tuscola	46,308 77	4,674 32	156 87	2,263 85	12,292 80	65,696 61	7,481 34	19,733 09	92,911 04
Van Buren	54,154 28	3,680 37	173 60	790 49	11,841 18	70,639 92	3,605 13	15,579 24	89,824 29
Washtenaw	88,933 15	6,652 20	1,103 34	1,571 01	21,124 91	119,384 61	14,284 55	12,795 08	146,464 24
Wayne	454,992 64	125,219 01	41,876 36	2,557 51	164,078 33	788,725 85	6,273 56	149,176 54	944,175 45
Wexford	28,042 52	5,617 89	15 15	2,485 75	8,463 84	44,575 15	3,842 56	20,519 04	68,936 75

TABLE VII.

Miscellaneous financial statistics as reported by school inspectors for the year ending September 4, 1893.

Counties.	Bonded indebtedness of the districts.	Total indebtedness of the districts.	Amount due the districts.	Amount paid and due inspectors and members of school boards for services.	Amount paid and due township chairmen and officers for services.
Totals	$1,870,463 18	$2,002,665 92	$208,460 29	$14,479 15	$26,485 65
Alcona	$400 00	$730 06	$1,086 16	$114 00	$28 00
Alger	2,400 00	3,529 50	2,200 00	168 50	51 00
Allegan	26,548 68	27,204 59	2,229 97	193 92	112 00
Alpena	2,000 00	3,644 58	1,497 00	335 20	336 00
Antrim	21,055 00	22,295 42	485 14	130 40	48 90
Arenac	3,650 00	4,424 63	2,389 87	78 00	29 50
Baraga	900 00	913 77	8 29	8 00	15 60
Barry	1,475 00	9,013 76	1,661 64	147 30	27 50
Bay	83,706 69	86,845 34	6,873 78	238 25	486 00
Benzie	8,568 00	9,789 36	4,589 56	95 25	16 50
Berrien	39,060 00	41,229 76	4,512 58	301 25	94 25
Branch	29,348 50	29,657 56	1,541 25	109 25	215 25
Calhoun	18,300 00	17,570 02	1,087 32	116 75	416 00
Cass	19,400 00	20,922 70	901 59	160 80	75 75
Charlevoix	26,445 25	28,687 04	2,608 68	179 75	28 05
Cheboygan	4,975 00	5,927 84	1,994 52	165 00	154 80
Chippewa	19,789 00	20,524 85	3,949 64	99 55	252 60
Clare	14,784 75	16,601 76	2,216 82	138 50	124 50
Clinton	14,886 44	15,588 00	11,279 17	107 75	
Crawford	860 00	1,349 08	1,055 13	108 00	42 75
Delta	26,432 50	28,940 85	1,003 88	160 80	281 00
Dickinson	63,061 00	65,698 87	744 00	297 00	328 50
Eaton	7,700 00	9,132 56	1,980 26	192 25	360 75
Emmet	19,974 61	20,726 96	3,861 26	100 20	29 50
Genesee	53,135 00	53,610 01	2,629 48	194 25	423 25
Gladwin	3,122 50	3,964 56	1,180 94	74 00	19 25
Gogebic	19,900 00	31,925 00		257 25	918 00
Grand Traverse	25,027 25	25,845 17	1,576 61	153 50	24 00
Gratiot	47,255 00	48,266 92	4,181 27	170 40	135 50
Hillsdale	9,603 58	10,185 06	698 26	129 25	60 46
Houghton	27,500 00	28,205 14	6,815 91	202 00	135 00
Huron	16,591 65	16,864 20	1,005 62	263 00	75 75
Ingham	10,244 00	12,449 49	1,043 35	132 70	418 00
Ionia	12,190 00	13,271 35	1,562 65	142 25	36 00
Iosco	3,302 82	4,691 55	2,000 97	41 00	421 50
Iron	17,837 50	19,661 64	2,771 73	249 50	140 00
Isabella	22,993 36	24,006 75	4,892 86	219 75	46 50
Isle Royal					
Jackson	36,920 00	39,778 41	1,665 81	154 50	743 60
Kalamazoo	22,100 00	22,229 53	1,605 91	95 25	404 50
Kalkaska	800 00	1,109 11	2,850 61	125 25	20 00
Kent	392,050 14	393,177 23	3,849 64	224 80	698 00
Keweenaw			1,434 29	69 00	16 00
Lake	900 00	1,516 62	1,069 75	150 50	31 60
Lapeer	16,145 90	16,378 40	1,861 04	146 50	52 50
Leelanau	3,109 80	3,588 00	892 41	98 17	14 07
Lenawee	11,588 50	13,550 17	3,671 18	220 20	334 00
Livingston	8,825 00	9,565 04	957 61	151 75	23 50
Luce	3,804 07	4,858 16	1,300 00	132 00	55 00
Mackinac	15,865 25	16,589 61	2,090 36	143 50	112 60

TABLE VII.—CONTINUED.

Counties.	Bonded indebtedness of the districts.	Total indebtedness of the districts.	Amount due the districts.	Amount paid and due inspectors and members of school boards for services.	Amount paid and due township chairmen and officers for services.
Macomb	$4,722 20	$7,765 93	$225 32	$165 75	$28 00
Manistee	26,192 50	26,830 49	1,098 93	108 50	28 00
Manitou			150 00	29 00	14 50
Marquette	70,500 00	71,427 76	1,952 08	578 84	1,131 50
Mason	19,163 00	37,043 07	2,648 13	306 50	238 36
Mecosta	3,600 00	3,979 39	2,525 05	131 50	228 00
Menominee	32,650 00	32,917 00	1,193 31	232 60	519 70
Midland	5,298 80	6,938 49	7,658 90	133 00	35 00
Missaukee	5,985 50	7,177 95	3,745 96	91 50	40 25
Monroe	13,323 00	13,999 10	533 54	195 50	80 50
Montcalm	14,114 00	19,980 28	5,037 50	166 75	149 25
Montmorency	1,550 00	2,028 19	1,357 81	80 75	15 00
Muskegon	33,387 70	35,270 80	16,754 46	199 50	83 00
Newaygo	3,994 08	4,427 30	6,215 05	207 25	88 46
Oakland	22,359 01	23,852 00	709 66	316 75	53 50
Oceana	10,100 00	12,302 54	2,313 97	142 87	31 25
Ogemaw	6,394 00	6,853 01	2,540 85	172 00	31 50
Ontonagon	10,658 22	11,158 22	332 00	181 00	92 00
Osceola	10,569 00	11,966 41	3,910 79	193 25	44 38
Oscoda	35 00	1,180 25	1,459 70	57 75	8 25
Otsego	8,282 50	9,719 80	1,221 06	110 00	18 20
Ottawa	28,127 80	28,221 00	1,363 68	149 62	157 25
Presque Isle	4,100 00	10,857 22	5,994 40	147 50	80 00
Roscommon	4,150 00	4,393 00	171 43	35 00	39 00
Saginaw	60,157 00	60,679 40	3,384 62	895 00	2,886 33
St. Clair	17,986 00	18,969 29	1,377 77	209 00	109 75
St. Joseph	13,095 44	17,073 93	1,063 43	115 00	51 75
Sanilac	19,185 00	19,976 87	1,771 99	152 27	88 52
Schoolcraft	6,694 00	6,895 00	1,224 13	70 15	31 50
Shiawassee	23,580 00	23,598 90	2,064 59	120 50	301 50
Tuscola	35,750 25	36,435 50	2,811 81	186 75	36 50
Van Buren	13,364 47	13,646 10	4,780 88	126 25	46 25
Washtenaw	26,665 00	27,615 78	668 08	155 00	478 25
Wayne	42,084 02	42,891 11	1,548 45	253 60	10,105 67
Wexford	36,159 00	38,324 86	2,100 17	131 01	281 00

TABLE VIII.

Cost per capita of public schools of the State for the school year ending September 4, 1893.

Counties.	No. of pupils included in school census in—		No. of pupils enrolled in—		Cost per capita for instruction based on school census in—			Cost per capita for instruction based on enrollment in—			Total expenses per capita during year based on enrollment in—		
	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.
Totals	381,064	296,612	248,099	207,499	$6 11	$4 79	$5 54	$9 38	$6 90	$8 25	$16 70	$9 24	$11 11
Alcona	474	1,300	378	894	$5 18	$5 48	$ 5 40	$6 49	$7 97	$7 53	$8 89	$11 38	$10 64
Alger		319		258		14 27	14 27		17 64	17 64		28 50	28 50
Allegan	4,021	8,032	3,383	5,818	6 37	4 21	4 93	7 57	5 82	6 46	11 21	7 63	8 95
Alpena	4,626	1,365	2,187	788	4 39	3 42	4 18	9 52	5 94	8 56	15 24	9 71	13 75
Antrim	1,530	2,182	1,330	1,613	6 53	6 47	6 49	7 51	8 76	8 19	11 77	13 38	12 66
Arenac	844	1,362	651	858	4 49	4 23	4 33	5 82	6 72	6 33	7 69	9 76	8 87
Baraga	1,162	127	841	117	6 79	18 89	7 98	9 38	20 51	10 74	17 55	39 56	20 24
Barry	1,738	5,475	1,740	4,430	7 52	5 31	5 84	7 52	6 56	6 83	12 26	8 09	9 26
Bay	15,931	5,008	7,369	2,621	4 93	2 95	4 45	10 65	5 64	9 34	19 04	9 08	16 43
Benzie	1,242	1,092	864	726	5 72	7 32	6 47	8 23	11 01	9 49	15 93	15 88	15 91
Berrien	6,651	6,564	5,395	4,870	6 69	4 83	5 77	8 26	6 51	7 43	16 20	9 07	12 81
Branch	2,460	4,498	2,124	3,422	8 97	5 43	6 68	10 38	7 14	8 38	15 31	9 40	11 67
Calhoun	7,289	5,299	5,302	4,034	6 77	6 22	6 54	9 25	8 17	8 78	18 99	10 69	15 31
Cass	1,913	4,022	1,644	3,075	8 45	6 27	6 97	9 83	8 21	8 77	17 84	10 31	12 94
Charlevoix	1,234	2,096	1,004	1,510	6 29	5 96	6 08	7 73	8 27	8 05	11 85	13 02	12 52
Cheboygan	2,593	1,925	1,321	1,264	4 20	5 20	4 63	8 24	7 92	8 09	14 54	11 76	13 18
Chippewa	2,224	1,687	1,371	1,214	4 79	5 19	4 96	7 76	7 21	7 50	24 91	9 67	17 75
Clare	1,116	1,274	735	920	4 98	6 12	5 59	7 57	8 48	8 08	13 69	13 51	13 59
Clinton	2,188	5,690	1,930	3,763	7 63	4 65	5 48	8 65	7 03	7 58	12 39	9 08	10 20
Crawford	400	344	322	233	8 62	16 17	12 11	10 71	23 87	16 23	15 69	33 96	23 36
Delta	3,185	1,775	1,679	1,225	3 80	5 65	4 47	7 21	8 19	7 62	13 06	11 32	12 32
Dickinson	3,716	288	2,708	238	6 95	9 87	7 14	9 53	12 12	9 71	22 64	24 96	22 83
Eaton	3,585	5,557	3,081	4,371	7 74	5 33	6 27	9 01	6 78	7 70	13 86	8 93	10 97
Emmet	1,348	1,414	948	882	6 84	6 79	6 81	9 72	10 88	10 28	15 47	15 14	15 31
Genesee	4,831	6,527	3,807	4,926	7 16	4 70	5 75	9 09	6 25	7 49	14 40	7 87	10 72
Gladwin	263	1,074	230	719	6 46	5 18	5 43	7 39	7 74	7 65	8 78	11 49	10 84
Gogebic	2,914	409	1,994	294	6 83	12 44	7 52	9 98	17 31	10 92	28 79	26 56	28 50
Gd. Traverse	2,192	2,416	1,601	1,728	6 66	5 48	6 04	9 12	7 67	8 36	14 95	10 18	12 48
Gratiot	2,644	6,455	2,358	4,922	7 25	3 94	4 90	8 12	5 17	6 13	17 29	6 56	10 03
Hillsdale	2,830	5,487	2,247	4,334	7 37	5 30	6 01	9 28	6 71	7 59	12 87	8 28	9 85
Houghton	13,046	762	6,953	440	5 95	7 22	6 02	11 17	12 50	11 24	17 32	19 84	17 46
Huron	3,118	8,636	2,057	5,074	4 31	3 04	3 38	6 54	5 18	5 57	8 81	7 00	7 52
Ingham	7,001	4,756	6,052	3,651	6 17	5 49	5 90	7 14	7 16	7 15	13 48	9 74	12 07
Ionia	4,231	5,753	3,319	4,143	7 56	4 87	6 03	9 70	6 76	8 07	14 07	8 53	10 99
Iosco	3,030	1,099	2,158	644	5 47	4 50	5 21	7 68	7 68	7 68	13 31	10 65	12 69
Iron	1,073	434	805	308	9 78	8 53	9 42	13 04	12 03	12 76	30 22	30 64	30 33
Isabella	1,352	5,260	1,021	3,636	6 05	4 15	4 54	8 02	6 06	6 44	12 86	7 94	9 02
Isle Royal													
Jackson	7,185	5,499	5,167	4,000	7 17	5 55	6 47	9 97	7 62	8 94	16 80	9 93	13 81
Kalamazoo	7,262	4,999	4,507	2,940	6 45	6 19	6 35	10 39	8 63	9 69	17 85	11 09	15 18
Kalkaska	447	1,080	349	887	8 13	9 09	8 81	10 41	11 07	10 88	15 01	15 43	15 31
Kent	26,637	9,368	15,586	6,661	7 12	4 71	6 49	12 16	6 63	10 51	24 60	8 62	19 82
Keweenaw	614	311	348	218	4 01	8 40	5 48	7 07	11 99	8 96	9 45	15 74	11 87
Lake	592	1,002	494	757	6 44	6 79	6 78	7 71	9 00	8 49	9 81	13 78	12 21
Lapeer	3,154	6,274	2,644	4,593	6 70	4 33	5 13	7 99	5 93	6 68	11 90	7 32	8 99

TABLE VIII.—Continued.

Counties.	No. of pupils included in school census in—		No. of pupils enrolled in—		Cost per capita for instruction based on school census in—			Cost per capita for instruction based on enrollment in—			Total expenses per capita during year based on enrollment in—		
	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.	Graded school districts.	Ungraded school districts.	All school districts.
Leelanau	426	2,534	349	1,581	$4 59	$3 98	$4 07	$5 60	$6 39	$6 24	$7 41	$8 04	$7 93
Lenawee	6,080	7,560	4,160	5,649	7 14	5 14	6 03	10 44	6 87	8 39	15 11	9 39	11 81
Livingston	1,395	4,471	1,205	3,603	8 61	5 41	6 17	9 96	6 71	7 53	15 90	8 71	10 51
Luce	479	118	350	89	8 49	11 86	9 16	11 63	15 73	12 46	24 57	40 31	27 75
Mackinac	1,078	971	823	650	6 19	6 15	6 17	8 11	9 19	8 59	11 69	13 64	12 55
Macomb	4,250	6,388	2,656	3,619	5 64	3 62	4 43	9 02	6 39	7 51	13 18	8 52	10 49
Manistee	5,882	2,309	3,134	1,457	5 64	4 77	5 40	10 59	7 56	9 63	15 52	9 85	13 72
Maniton	.....	253	.....	171	.....	2 44	2 44	.....	3 61	3 61	.....	5 19	5 19
Marquette	11,171	1,086	7,252	798	6 39	10 76	6 77	9 84	14 64	10 31	16 34	20 23	16 73
Mason	3,357	2,369	2,302	1,618	6 23	5 30	5 85	9 08	7 76	8 54	10 37	10 57	13 01
Mecosta	2,232	4,405	1,788	3,178	6 76	4 60	5 32	8 44	6 37	7 12	11 64	7 98	9 30
Menominee	5,418	1,448	3,224	966	4 72	6 16	5 02	7 94	9 23	8 23	21 80	12 87	19 74
Midland	1,341	2,665	1,162	1,759	5 12	4 23	4 52	5 90	6 40	6 21	8 68	8 27	8 43
Missaukee	718	1,076	501	820	5 69	8 88	7 61	8 16	11 65	10 33	12 06	19 10	16 43
Monroe	3,177	7,790	1,573	5,478	4 63	3 64	3 92	9 36	5 17	6 15	14 56	7 13	8 78
Montcalm	3,530	6,823	2,949	4,814	7 07	4 01	5 05	8 47	5 77	6 74	11 55	7 36	8 95
Montmorency	194	253	144	286	7 04	15 73	12 27	9 48	16 13	13 89	13 22	28 79	23 58
Muskegon	10,041	3,757	6,472	2,529	7 18	4 31	6 40	11 15	6 41	9 82	29 81	9 13	24 00
Newaygo	1,660	4,493	1,211	3,262	5 54	4 71	4 94	7 60	6 49	6 79	10 87	8 48	9 13
Oakland	4,749	6,246	3,902	4,548	7 68	5 76	6 59	9 35	7 91	8 57	15 45	9 98	12 51
Oceana	1,308	3,848	967	2,868	6 12	4 77	5 11	8 28	6 39	6 87	18 99	8 22	10 94
Ogemaw	432	1,230	390	804	5 69	6 88	6 57	6 30	10 53	9 15	9 40	12 93	11 78
Ontonagon	1,066	295	788	262	9 69	14 03	10 63	13 20	15 80	13 85	26 30	20 72	24 90
Osceola	2,022	3,359	1,651	2,281	6 78	5 15	5 76	8 30	7 59	7 89	10 63	10 46	10 53
Oscoda	.....	398	.....	316	.....	8 53	8 53	.....	10 74	10 74	.....	12 60	12 60
Otsego	517	779	410	542	6 15	9 43	8 13	7 75	13 74	11 05	14 52	19 45	17 33
Ottawa	6,632	6,283	4,921	4,268	5 31	3 74	4 55	7 12	5 51	6 39	12 14	7 13	9 82
Presque Isle	291	1,506	220	628	3 43	2 41	2 58	4 54	5 80	5 47	4 81	8 29	7 38
Roscommon	363	102	262	88	5 25	11 25	6 56	7 27	13 04	8 72	9 49	26 29	13 71
Saginaw	18,186	8,874	10,966	5,501	4 25	3 68	5 46	10 49	5 93	9 02	15 58	8 29	13 14
St. Clair	9,245	8,702	5,384	5,686	4 23	3 57	3 91	7 27	5 46	6 34	7 88	18 08	13 12
St. Joseph	2,989	3,956	2,574	3,006	9 40	5 45	7 15	10 92	7 17	8 90	19 79	9 02	13 99
Sanilac	3,702	8,519	2,766	5,924	4 15	3 29	3 55	5 55	4 73	4 99	10 49	6 98	8 10
Schoolcraft	958	761	537	562	7 31	8 64	7 89	13 04	11 69	12 36	18 12	16 79	17 44
Shiawassee	4,001	5,357	3,107	4,020	7 64	4 46	5 82	9 83	5 94	7 64	17 34	7 66	11 88
Tuscola	3,060	8,006	2,578	5,532	5 88	3 53	4 18	6 98	5 11	5 71	10 13	7 15	8 10
Van Buren	3,579	5,399	3,129	4,089	7 18	5 26	6 03	8 22	7 04	7 55	11 06	8 91	9 85
Washtenaw	6,492	5,893	4,909	4,025	8 82	5 36	7 18	11 67	7 85	9 95	15 88	10 28	13 36
Wayne	81,262	8 858	44,026	4,880	5 20	3 64	5 04	9 60	6 59	9 30	16 84	9 69	16 12
Wexford	1,945	2,036	1,408	1,373	7 52	6 58	7 04	10 39	9 76	10 09	17 83	14 17	16 02

TABLE IX.—*Statistics of township and district libraries as reported by school inspectors for the year ending Sept. 4, 1893.*

Counties.	No. of townships using library money for general school purposes.	No. of townships forfeiting library moneys.	No. of townships maintaining libraries.	No. of volumes added to township libraries during the year.	Whole No. of volumes in township libraries.	Amount of taxes voted for township libraries.	Amount of fines, etc., received from county treasurers for township libraries.	Amount paid for books and care of township libraries.	Amount of township library money on hand Sept. 4, 1893.	No. of districts maintaining libraries.	No. of volumes added to district libraries during the year.	Whole No. of volumes in such libraries.	Amount paid for support of such libraries.	Amount of fines, etc., received from county treasurer for such libraries.
Totals	576	180	513	13,539	165,752	$3,849 71	$13,003 68	$19,903 86	$21,122 72	1,094	32,208	423,558	$81,816 93	$99,723 45
Alcona	4	3	3	2	938		$6 58	$75 00	$55 92					$2 90
Alger	3	2	2		223		25 80			1		23		
Allegan	13	3	9	442	3,393		385 41	430 25	154 23	45	329	4,111	$175 28	458 02
Alpena	4	2	3		248			11 00		3	215	2,336	580 82	293 18
Antrim	5		13	168	2,976	$130 00	324 87	823 08	679 17	3	50	270		67 28
Arenac	3	3								4	17	333		
Baraga	1	2	1		290			130 00	43 95	2		575	130 00	
Barry	12	2	4	79	1,042		197 56	99 44	176 09	21	182	2,374	140 65	837 07
Bay	4	4	9	374	3,033		493 40	376 34	418 97	9	104	3,938	296 18	297 99
Benzie	1	1	11	909	2,542	25 00	631 68	795 85	259 17	2	2	102	3 50	240 80
Berrien	8	6	8	381	3,744	200 00	115 03	462 04	228 48	20	229	5,147	240 16	594 28
Branch	13		3	94	1,727		94 18	226 60	23 23	22	71	1,630	297 87	204 19
Calhoun	17		3		1,084		32 60	85 16	24 95	39	1,047	15,837	999 90	542 23
Cass	11		4	26	1,485		71 21	32 96	75 53	30	110	2,633	115 58	332 13
Charlevoix	8	1	8	364	1,647	155	111 90	357 42	210 12	3	65	344	59 00	36 42
Cheboygan	8	1	5		878		92 88	28 50	212 78	5	309	2,329	158 75	371 50
Chippewa	7	2	6	61	760		76 36	46 01	76 31	3	155	1,260	200 38	176 65
Clare	5	3	5	84	756	50 00		40 00	39 80	2	15	442	37 50	14 42
Clinton	13	2	3	10	575		21 64	8 00	119 00	14	221	1,159	220 64	314 60
Crawford	1	1	7	112	1,893	100 00		197 38	167 95	4	114	192	141 07	24 39
Delta	3	5	4	176	705		286 21	169 55	271 06	5	326	1,432	245 65	471 51
Dickinson	2	1	3	2	1,827	8 20	279 40	213 15	955 19	3	525	2,540	1,063 84	900 23
Eaton	9	1	9	330	4,596		161 80	440 94	300 56	10	330	2,373	280 82	242 53
Emmet	2	4	8	22	1,005		180 95	119 12	445 66	1	500	1,001	428 05	19 80
Genesee	16	1	1	40	353		58 80	40 50		37	710	9,403	808 67	849 69
Gladwin	2	5	3	3	184		32 45	10 00	230 03	3	12	209		
Gogebic	2	2								2	125	887	276 06	209 04
Grand Traverse	2		13	684	4,576	100 00	1,569 00	792 42	1,403 11	5	35	511	161 85	237 43
Gratiot	16		1	40	720		23 09			16	634	3,394	345 75	439 58
Hillsdale	15	3	3	41	942		81 19	73 80	36 00	25	198	1,687	207 77	635 44
Houghton	4	4	4	715	4,385		1,423 48	1,109 35	2,787 66	11	1,059	5,773	1,378 93	875 87
Huron	11	4	13	585	2,527		290 81	206 00	420 93	15	134	1,512	167 78	223 75
Ingham	16						85 79			14	170	8,945	1,047 34	787 13
Ionia	16		1	2	43		135 87			16	180	1,833	221 42	756 57
Iosco		4	6	5	1,636	25 00	43 63	134 00	241 37	2	134	1,205	183 34	239 88
Iron	7	1								3	360	1,171	663 87	

Isabella	5	4	7		879		188	83	68	50	367	48	6	2	977	15	75	28	00
Jackson	16	2	1	49	983		188	90	32	20	81	90	35	1,074	5,445	169	30	914	68
Kalamazoo	12		4	51	1,475		189	28	85	43	89	79	52	319	22,471	1,611	62	2,214	46
Kalkaska	5	3	5	65	429		6	22	37	34	76	79	9	3	609	37	22	106	74
Kent	13	2	10	392	4,895	100	00	321	41	507	39	189	20	22	3,260	36,827	10,823	93	6,196	28
Keweenaw	2	1	3	213	638			33	72	79	00	409	73	4	169	1,533			33	72
Lake	2	1	10	147	2,149	72	72	119	02	310	97	122	58	5	134	1,035	53	65	70	24
Lapeer	12	2	5	173	1,440			70	49	136	39	87	11	27	177	2,090	146	01	338	34
Leelanau			11	55	1,886			61	41	157	00	246	97	1	2	127			71	30
Lenawee	9	6	7	110	3,454			84	45	144	43	42	74	59	828	16,110	2,115	34	1,951	58
Livingston	13	1	4	5	1,525			34	74	45	28	91	42	7	12	580	50	75	648	17
Luce	1	1	3	76	926					71	25	213	36	1	76	866	71	25		
Mackinac	1	3	6	32	1,392	133	47	49	13	156	14	19	00	4	32	1,023	51	99	14	99
Macomb	3	6	6	207	1,772			105	56	62	10	221	89	15	323	4,666	838	11	1,095	58
Manistee	2	1	10	109	2,782			163	93	239	58	124	81	9	128	2,559	673	38	718	94
Manitou	1	1	1	1	59															
Marquette	6	2	8	456	5,143	375	00	552	25	976	10	933	24	7	890	9,510	690	03	1,165	98
Mason	2	1	11	344	3,447	25	00	89	53	194	41	266	09	1		2,300	108	25	141	66
Mecosta	6	3	9	54	2,139	25	99	53	03	96	83	26	80	8	5	2,437	111	69	306	93
Menominee	5		6		2,973	100	00	446	55	144	36	923	77	4	351	1,101	1,268	98	292	03
Midland	2	6	7	32	415					40	36	12	17	10		1,458	49	12		
Missankee	2	2	9	30	1,095	25	00	232	39	111	60	274	65	10	61	482	53	89	43	00
Monroe	5		11	115	2,534			43	89	118	36	159	64	6	278	3,096	633	92	947	50
Montcalm	5	5	10	103	2,360			70	59	175	17	244	90	9	46	1,490	109	86	208	10
Montmorency	1	4	2		288					18	00	50	00	1		150	25	00		
Muskegon	2		15	329	4,554	275	00	45	57	525	76	266	27	7	941	20,624	4,947	40	229	20
Newaygo	6	3	13	107	3,130	25	00	87	33	250	40	219	06	8	37	418	18	00	3	37
Oakland	19	1	5	88	2,376			98	40	117	50	75	39	33	231	4,586	187	15	628	91
Oceana	2		16	413	4,542	200	00	158	03	567	46	420	95	14	146	766	55	25	7	42
Ogemaw	8	4	4	5	1,581	250	00	75	13	142	63	101	50	1	12	70	18	30	9	04
Ontonagon	4	2	2		414			172	06					4	23	1,842			336	49
Osceola	3	1	13	218	3,258	50	00	81	09	420	00	168	17	3	60	548	74	04	120	58
Oscoda	7		1		396	50	00	41	65	35	00	37	06						45	82
Otsego	3	1	7	170	2,454			90	20	344	16	291	30	4	55	127	63	96	220	80
Ottawa	4		11	344	4,415	50	00	49	89	318	14	115	48	27	378	5,078	439	95	64	45
Presque Isle	8	3	1		30							97	38	8	81	449	72	37	41	00
Roscommon	4	2	3		451			44	82	61	25	64	76						3	80
Saginaw	12	5	10	205	5,013			342	26	387	89	585	58	40	1,682	19,669	1,321	97	1,243	33
St. Clair	8	7	8	296	3,416			109	05	179	45	247	29	23	104	4,152	548	61	548	65
St. Joseph	9	3	4	621	8,421	950	00	107	97	3,099	04	762	70	34	53	2,590	59	88	145	48
Sanilac	16	1	11	248	1,864			118	40	209	40	122	16	17	51	1,130	12	14	230	34
Schoolcraft	4	3	2		502					121	20	213	92	1	98	104			99	26
Shiawassee	15		1	299	900	10	00	101	60	190	69			16	144	1,740	215	13	413	44
Tuscola	10	3	10	194	2,262			105	26	314	86	144	33	19	215	2,253	156	37	248	65
Van Buren	9	2	8	556	3,912	150	00	248	16	743	73	505	20	20	172	1,276	173	60	483	51
Washtenaw	12	5	7	90	2,267			127	22	111	50	65	52	15	583	7,974	1,103	34	1,026	19
Wayne	9	4	5	407	5,951			319	43	876	99	1,038	07	88	10,310	140,259	41,876	26	64,359	60
Wexford	2		15	389	3,533	189	00	52	33	392	85	247	88	1	8	800	15	15		

TABLE X.

Branches of instruction as reported by school inspectors for the year ending September 4, 1893.

Counties.	No. of districts in which instruction is given in—												
	Orthography.	Reading.	Writing.	Arithmetic.	Geography.	English Grammar.	U. S. History.	Civil Government.	Algebra.	Geometry.	Natural Philosophy.	Physiology.	Botany.
Totals	4,973	6,786	6,228	6,718	6,644	6,531	6,204	4,417	1,412	563	680	5,732	386
Alcona	20	26	25	25	24	24	20	12	5	2	1	21	1
Alger	7	7	7	7	7	7	5	5	2			2	2
Allegan	185	181	176	183	181	178	163	115	26	18	12	162	6
Alpena	18	17	17	17	17	17	16	14	1	1	4	15	2
Antrim	61	69	66	70	70	67	66	46	9	3	7	64	4
Arenac	26	33	32	32	31	30	28	23	5	3	4	30	2
Baraga	6	7	5	7	7	7	6	4	4	2	6	2	2
Barry	98	140	118	139	139	127	137	111	29	4	22	125	6
Bay	55	59	59	58	58	55	56	45	7	4	7	52	3
Benzie	46	50	44	46	45	44	43	29	9	6	7	40	4
Berrien	128	146	142	147	143	141	130	76	37	20	23	112	7
Branch	94	118	110	117	117	115	114	88	23	13	7	101	5
Calhoun	96	145	128	147	147	143	146	92	42	71	15	129	8
Cass	65	108	97	106	106	107	106	76	38	10	9	90	9
Charlevoix	58	63	59	63	60	59	56	46	10	5	6	58	5
Cheboygan	40	52	51	50	47	41	38	26	8	1	5	38	1
Chippewa	35	40	39	39	40	39	37	21	4	1	1	37	1
Clare	30	38	32	36	36	34	33	17	4	3	5	27	3
Clinton	76	132	98	124	122	122	112	70	11	5	11	105	4
Crawford	27	35	35	35	32	31	27	17	3	6	3	19	2
Delta	33	38	36	38	37	30	25	13	2	2	2	29	2
Dickinson	7	8	8	8	8	8	8	7	5	4	3	8	3
Eaton	93	137	136	142	137	143	127	88	20	9	7	125	6
Emmet	41	51	47	52	52	47	38	24	8	3	4	44	4
Genesee	117	154	150	153	154	155	156	113	44	9	11	139	5
Gladwin	23	27	25	27	25	27	23	16	4	2	4	24	2
Gogebic	6	8	8	8	8	8	7	5	3	2	2	8	2
Grand Traverse	58	65	57	65	65	64	61	42	9	4	6	60	4
Gratiot	71	111	90	110	107	109	109	84	15	6	8	94	3
Hillsdale	78	159	45	158	159	156	142	97	45	10	9	131	10
Houghton	27	31	29	31	29	29	27	18	10	8	8	24	6
Huron	82	110	106	106	107	105	102	71	20	13	13	97	6
Ingham	83	123	104	120	129	126	127	98	22	7	13	111	7
Ionia	88	138	112	138	137	132	128	95	26	7	13	111	11
Iosco	17	26	23	25	25	23	21	12	7	4	5	19	4
Iron	7	9	9	10	9	10	6	2	3	2	2	9	2
Isabella	86	99	99	99	97	96	89	73	14	9	8	90	1
Isle Royal													
Jackson	61	124	108	123	120	119	111	71	43	15	19	95	10
Kalamazoo	96	131	116	130	129	126	116	80	39	8	14	105	10
Kalkaska	45	49	49	49	49	49	49	35	4	1	2	49	1
Kent	128	198	181	190	191	191	184	128	48	10	18	168	10
Keweenaw	7	7	7	7	7	7	7	7	6	4	4	6	4
Lake	33	38	35	38	38	35	36	26	3	1	3	35	2
Lapeer	96	136	129	136	135	135	128	110	28	11	13	120	6

TABLE X.—CONTINUED.

Counties.	No. of districts in which instruction is given in—												
	Orthography.	Reading.	Writing.	Arithmetic.	Geography.	English Grammar.	U. S. History.	Civil Government.	Algebra.	Geometry.	Natural Philosophy	Physiology.	Botany.
Leelanau	47	53	50	51	53	49	43	25	5	3	3	49	----
Lenawee	125	195	181	194	191	194	185	141	52	13	17	175	14
Livingston	45	90	83	89	89	89	87	63	32	5	4	74	6
Luce	4	4	4	4	4	4	4	3	1	1	1	4	1
Mackinac	21	28	28	29	29	27	24	12	2	1	1	21	1
Macomb	79	113	102	109	109	111	103	68	28	12	11	93	9
Manistee	52	53	52	53	53	50	51	37	7	1	3	51	1
Manitou	3	4	4	4	4	4	4	2	----	----	----	4	----
Marquette	30	32	31	31	31	31	29	17	9	7	8	31	8
Mason	42	58	51	57	55	55	52	35	6	1	3	48	1
Mecosta	84	95	75	96	95	96	90	66	8	2	5	87	----
Menominee	32	42	39	40	38	35	26	11	4	1	2	34	2
Midland	49	59	59	59	58	57	54	41	7	3	8	53	2
Missaukee	32	40	36	40	39	40	37	24	9	1	5	33	4
Monroe	117	131	116	129	130	129	126	85	24	9	9	101	4
Montcalm	91	135	122	131	128	121	126	73	20	10	14	113	7
Montmorency	11	11	11	11	10	11	10	10	5	4	2	11	3
Muskegon	64	90	68	82	81	84	72	44	15	9	12	76	9
Newaygo	77	105	102	106	101	103	95	70	8	5	7	95	4
Oakland	115	198	183	193	193	189	179	131	74	17	23	144	14
Oceana	66	85	82	86	84	83	81	62	14	4	7	76	3
Ogemaw	30	39	38	38	37	33	34	22	3	1	4	36	1
Ontonagon	6	8	10	11	11	10	11	10	8	5	5	8	1
Osceola	65	82	71	84	82	76	70	52	12	6	8	72	4
Oscoda	25	26	26	26	26	25	24	17	2	----	----	23	----
Otsego	32	40	37	39	39	35	35	26	4	2	3	37	1
Ottawa	103	121	116	119	119	117	115	83	23	5	17	102	5
Presque Isle	25	31	31	31	31	26	22	10	1	2	1	25	----
Roscommon	11	13	13	13	12	12	10	7	3	1	2	8	1
Saginaw	116	155	153	155	149	151	142	108	33	8	27	135	6
St. Clair	119	146	145	148	146	145	140	119	36	9	14	132	9
St. Joseph	85	110	90	112	110	107	98	69	33	9	13	78	8
Sanilac	111	140	132	137	135	137	134	119	45	17	21	130	7
Schoolcraft	14	19	17	19	19	18	14	9	5	2	6	11	2
Shiawassee	64	135	105	116	115	126	110	81	28	8	12	92	10
Tuscola	108	141	138	141	141	136	134	100	34	12	16	127	11
Van Buren	124	142	128	142	142	140	133	93	35	11	12	124	10
Washtenaw	94	155	141	157	155	144	132	85	32	11	9	127	7
Wayne	99	151	144	147	149	144	138	94	36	12	12	97	8
Wexford	59	68	65	68	68	69	66	45	6	4	7	65	4

TABLE XI.

Private and select schools as reported for the year ending September 4, 1883.

Counties.	No. of schools.	No. of teachers.		Estimated No. of pupils.	Counties.	No. of schools.	No. of teachers.		Estimated No of pupils.
		Men.	Women.				Men.	Women.	
Totals	359	334	660	41,717	Kent	30	26	60	3,875
					Keweenaw				
Alcona					Lake				
Alger					Lapeer				
Allegan	5	4	3	264	Leelanau	1			20
Alpena	4	2	6	650	Lenawee	10	9	5	180
Antrim	1		1	24	Livingston				
					Luce				
Arenac					Mackinac				
Baraga					Macomb	17	15	6	1,093
Barry					Manistee	4	3	8	300
Bay	16	10	24	3,328	Manitou	1		1	30
Benzie									
					Marquette	6	3	11	1,325
Berrien	7	8	11	335	Mason				
Branch	2	1	2	80	Mecosta	5	8	5	775
Calhoun	8	14	23	825	Menominee	3		7	300
Cass	1		1	12	Midland				
Charlevoix	1		1	2	Missaukee				
Cheboygan	2	3	5	350	Monroe	14	9	18	1,133
Chippewa	1	3	3	250	Montcalm				
Clare					Montmorency				
Clinton	5	5	8	463	Muskegon	7	1		40
Crawford					Newaygo	2	2	2	41
					Oakland				
Delta	7	2	22	1,097					
Dickinson	1		4	200	Oceana				
Eaton					Ogemaw	1		1	11
Emmet	2	2	5	125	Ontonagon				
Genesee	5	10	15	570	Osceola	1		1	30
					Oscoda				
Gladwin					Otsego	1	1		50
Gogebic	1		7	400					
Grand Traverse					Ottawa	6	5	8	227
Gratiot					Presque Isle	2	2		70
Hillsdale	1		1	25	Roscommon				
					Saginaw	28	18	10	1,158
Houghton	8	5	27	2,700	St. Clair	16	8	27	1,415
Huron	10	8	6	907					
Ingham	8	6	7	300	St. Joseph	3	2	4	123
Ionia	6	6	9	410	Sanilac	1		1	40
Iosco	3	2	4	265	Schoolcraft				
					Shiawassee	2	1	3	50
Iron					Tuscola	3	1	1	105
Isabella	1		1	94					
Isle Royal					Van Buren	2	2	1	30
Jackson	2	3	1	116	Washtenaw	11	7	6	720
Kalamazoo	12	13	30	636	Wayne	66	104	246	14,197
Kalkaska					Wexford	1		1	7

TABLE XII.

Examination and certification of teachers as reported by the county commissioners of schools for the year ending Sept. 4, 1893.

Counties.	No. of public examinations.	Whole No. of applicants for regular certificates.	No. of applicants for special certificates.	No. of applicants receiving certificates.				No. licensed without experience in teaching.	No. of applicants having received some normal school instruction.	No. of applicants having attended institute during the year.	No. of teachers having State certificates.	No. of teachers holding normal school certificates.	No. of legally qualified teachers in the county.	No. making teaching a permanent occupation.	No. of certificates suspended.	No. of certificates revoked.	Av. per cent of correct answers required for certificates.		
				First grade.	Second grade.	Third grade.	Specials.										First grade.	Second grade.	Third grade.
Totals	422	16,553	1,106	274	708	9,846	822	2,798	1,330	4,510	88	391	11,885	5,408	1	3	----	----	----
Alcona	4	43	6	2	----	26	6	7	----	13	1	----	33	e 21	----	----	85	80	75
Alger	4	12	3	----	1	9	3	----	6	----	----	----	11	10	----	----	95	85	75
Allegan	6	398	20	7	34	231	19	91	21	75	6	9	335	e 70	----	----	90	80	75
Alpena	4	82	3	----	----	49	3	17	3	38	----	----	37	25	----	----	95	85	70
Antrim	5	125	15	4	1	74	10	9	1	40	----	6	105	50	----	----	90	85	80
Arenac	4	54	3	----	----	27	3	5	3	21	----	----	40	28	----	----	90	80	75
Baraga	3	23	2	1	3	18	2	16	----	----	7	2	31	----	----	----	90	85	80
Barry	6	295	20	3	14	181	18	58	2	84	----	5	261	e100	----	----	90	85	80
Bay	4	126	14	----	9	73	6	4	5	15	----	1	88	e 40	----	----	90	85	75
Benzie	5	113	10	----	2	40	10	20	2	22	----	5	84	e 30	----	----	95	85	75
Berrien	6	409	8	7	32	222	4	82	51	140	4	5	247	208	----	----	95	85	80
Branch	6	304	15	2	3	219	13	60	28	54	----	6	256	e 90	----	----	90	85	80
Calhoun	6	297	----	2	7	184	----	54	22	57	----	1	248	e 85	----	----	90	85	80
Cass	6	263	4	5	4	176	4	71	32	18	1	10	196	84	----	----	90	85	75
Charlevoix	6	116	e 25	5	5	86	17	26	10	39	1	----	112	e 25	----	----	90	80	80
Cheboygan	5	107	5	2	13	42	1	20	10	26	1	----	50	30	----	----	90	85	80
Chippewa	4	95	30	2	5	34	14	9	4	31	----	5	59	e 40	----	----	85	80	75
Clare	5	92	12	3	8	71	12	24	9	45	1	----	86	e 45	----	----	85	80	75
Clinton	6	255	----	9	17	202	23	35	3	----	1	8	242	e150	----	----	90	85	75
Crawford	4	46	10	----	5	93	7	8	5	8	----	2	38	22	----	----	90	80	75
Delta	5	66	9	3	6	40	9	7	6	21	1	1	68	25	1	1	85	80	65
Dickinson	4	e 25	4	1	----	8	2	2	e 3	----	----	----	14	----	----	----	80	75	70
Eaton	6	e 369	14	6	11	214	12	40	e 12	150	----	4	234	150	----	----	90	85	75
Emmet	6	120	5	1	4	81	5	19	4	18	----	----	88	44	----	----	90	80	75
Genesee	6	466	6	2	19	219	6	60	156	182	----	2	248	e100	----	----	95	85	80

e These amounts were not reported by the secretaries, and are estimated.

TABLE XII.—CONTINUED.

Counties.	No. of public examinations.	Whole No. of applicants for regular certificates.	No. of applicants for special certificates.	No. of applicants receiving certificates.				No. licensed without experience in teaching.	No. of applicants having received some normal school instruction.	No. of applicants having attended institute during the year.	No. of teachers having State certificates.	No. of teachers holding normal school certificates.	No. of legally qualified teachers in the county.	No. making teaching a permanent occupation.	No. of certificates suspended.	No. of certificates revoked.	Av. per cent of correct answers required for certificates.		
				First grade.	Second grade.	Third grade.	Specials.										First grade.	Second grade.	Third grade.
Gladwin	5	75	20	----	1	29	5	e 6	----	24	----	----	26	e 10	----	----	90	85	75
Gogebic	3	26	4	2	1	17	4	5	6	----	----	----	e 21	e 21	----	----	90	85	75
Grand Traverse	6	166	12	2	10	100	10	20	8	42	----	13	140	e 60	----	----	90	80	75
Gratiot	6	328	35	2	13	184	26	64	11	91	2	6	223	105	----	----	90	80	75
Hillsdale	6	416	40	7	13	262	32	52	20	70	1	5	298	75	----	----	90	85	80
Houghton	4	161	26	20	2	42	49	11	6	27	5	17	124	e100	----	----	90	80	75
Huron	6	246	15	2	4	118	8	34	3	102	2	7	151	e100	----	----	90	85	80
Ingham	6	529	17	4	21	200	11	29	44	127	2	25	273	82	----	----	90	85	80
Ionia	6	321	9	4	7	217	9	39	27	----	1	11	243	167	----	----	90	85	75
Iosco	5	68	2	1	6	42	1	9	----	20	3	2	44	28	----	----	90	85	75
Iron	2	29	5	8	2	17	5	1	1	----	2	7	35	34	----	----	90	85	75
Isabella	4	196	e 10	6	19	95	4	17	4	120	----	3	123	123	----	----	90	85	80
Isle Royal																			
Jackson	6	456	16	9	18	263	8	120	65	230	3	22	338	270	----	----	95	90	80
Kalamazoo	6	293	15	6	20	217	6	71	10	128	2	3	254	103	----	----	90	80	75
Kalkaska	4	95	18	1	1	54	12	10	----	32	----	2	57	e 6	----	----	90	85	75
Kent	6	622	20	5	21	406	16	115	----	e125	----	6	461	----	----	----	90	85	85
Keweenaw	2	15	2	2	1	11	2	9	1	2	----	2	20	10	----	----	90	80	75
Lake																			
Lapeer	5	270	12	6	21	175	8	80	5	120	----	10	220	100	----	----	90	80	75
Leelanau	5	e 79	11	1	----	60	10	8	2	21	----	----	72	43	----	----	90	80	75
Lenawee	6	e 480	e 40	----	11	379	36	109	22	126	----	11	e 440	----	----	----	90	85	80
Livingston	6	385	5	3	15	244	5	88	27	105	1	7	270	e 50	----	----	90	85	75
Luce	6	13	1	----	1	12	1	4	----	1	----	1	14	13	----	----	85	80	75
Mackinac																			
Macomb	6	237	9	2	10	130	9	23	10	----	2	6	175	e100	----	----	85	80	75
Manistee	6	107	14	----	1	52	6	7	----	32	3	----	50	----	----	----	80	80	75
Manitou	6	3	----	----	----	3	----	----	----	----	----	----	4	3	----	----	95	85	75
Marquette	5	97	12	7	7	64	8	16	18	43	3	35	160	135	----	----	90	85	75
Mason	4	119	12	----	3	74	10	21	6	41	----	----	77	e 15	----	1	90	85	75

Mecosta	6	280	35	10	14	180	20	45	2	104	2	2	150	30	----	----	----	----	----
Menominee	4	60	28	----	2	18	28	7	8	19	2	----	49	e 30	----	----	90	80	70
Midland	5	124	5	----	4	54	5	10	1	25	----	2	113	e 54	----	----	90	85	80
Missaukee	4	71	2	1	5	45	2	5	----	25	----	1	60	e 56	----	----	90	85	75
Monroe	6	409	56	3	15	240	14	48	130	140	3	7	220	20	----	----	95	85	65
Montcalm	6	281	e 9	7	11	190	e 9	61	27	93	1	5	219	e 90	----	----	90	80	75
Montmorency	4	31	3	----	----	25	3	10	----	20	----	----	27	e 15	----	----	90	80	75
Muskegon	6	323	----	5	3	211	----	e 75	e 25	e 60	e 3	e 2	224	e125	----	----	90	85	75
Newaygo	6	306	5	2	18	174	5	55	15	117	----	6	221	e150	----	----	90	80	75
Oakland	6	388	42	3	18	259	21	76	43	87	5	22	336	75	----	----	95	90	85
Oceana	6	180	15	2	3	109	10	40	45	100	2	1	125	----	----	----	95	85	75
Ogemaw	4	57	13	1	2	42	13	8	----	80	----	----	37	e 32	----	----	90	80	70
Ontonagon	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Osceola	6	332	11	11	15	164	7	38	17	74	1	13	e 125	e 75	----	----	90	85	80
Oscoda	6	80	7	2	3	16	7	----	3	4	----	----	23	e 20	----	----	90	80	70
Otsego	6	108	3	2	----	58	3	14	9	49	----	----	62	e 12	----	----	95	85	75
Ottawa	6	258	----	14	26	159	17	----	----	----	1	3	215	e200	----	----	90	80	80
Presque Isle	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Roscommon	5	12	2	----	----	11	2	----	----	8	----	1	15	5	----	----	85	80	70
Saginaw	6	339	24	11	15	217	19	78	70	160	2	6	251	150	----	----	93	87	80
St. Clair	5	411	15	3	13	192	11	50	10	79	2	6	223	e120	----	----	85	80	75
St. Joseph	6	350	----	2	24	290	----	----	----	----	----	3	4	290	----	----	90	85	80
Sanilac	4	342	18	4	32	177	6	83	3	37	2	1	239	15	----	1	90	85	80
Schoolcraft	5	45	10	1	2	29	10	8	42	22	----	3	37	20	----	----	90	85	80
Shiawassee	6	347	65	4	8	168	40	39	11	114	----	1	175	e 50	----	----	90	85	75
Tuscola	6	388	22	9	27	286	22	110	21	143	----	4	344	e165	----	----	90	85	80
Van Buren	5	486	10	2	8	225	4	62	9	128	5	14	269	e200	----	----	90	80	75
Washtenaw	6	----	11	3	3	----	7	54	74	48	----	8	264	40	----	----	95	90	80
Wayne	6	329	42	2	2	210	25	95	6	60	1	6	246	74	----	----	90	80	80
Wexford	5	144	e 8	1	3	71	4	15	e 15	40	----	1	90	e 70	----	----	90	85	80

e These amounts were not reported by the secretaries, and are estimated.

TABLE XIII.

Conditions of schools and schoolhouses as reported by the county commissioners of schools for the year ending September 4, 1893.

Counties.	No. of districts visited by the commissioner during the year.	No. of schools supplied with dictionaries.	No. of schools supplied with maps.	No. of schools supplied with globes.	No. of schoolhouses properly ventilated and heated.	No. of schools having uniform text-books in each branch.	No. of schools having a prescribed course of study.	No. of schools properly classified.	No. of schools in which physiology, etc., is taught.	No. of districts that have adopted text-books in physiology.
Totals	6,451	5,265	4,093	2,999	3,171	5,441	4,457	5,624	5,556	4,688
Alcona	27	22	24	23	e 20	26	26	26	26	26
Alger	4	4	8	4	5	5	5	5	11	9
Allegan	161	165	87	90	15	174	184	180	170	----
Alpena	44	25	30	30	44	36	26	40	44	----
Antrim	68	50	52	35	50	45	60	60	65	50
Arenac	e 20	25	25	e 12	25	25	10	29	25	25
Baraga	6	7	21	e 15	18	14	10	22	22	22
Barry	147	122	22	25	----	----	e 147	e 147	147	----
Bay	58	50	e 60	e 45	40	60	2	e 35	60	----
Benzie	46	38	28	18	43	32	46	40	46	e 40
Berrien	150	142	130	110	144	137	18	128	150	150
Branch	129	84	70	86	129	125	124	124	124	120
Calhoun	161	145	e 75	101	22	109	162	e 135	162	155
Cass	e 60	90	75	60	20	111	e 101	101	116	116
Charlevoix	41	27	21	21	16	38	1	34	41	e 5
Cheboygan	50	40	40	30	45	45	4	48	55	48
Chippewa	38	21	33	11	33	30	38	30	40	35
Clare	42	31	30	29	35	36	33	33	39	1
Clinton	129	100	----	----	12	125	129	75	129	----
Crawford	30	29	30	24	30	22	1	30	43	43
Delta	33	32	31	25	20	25	17	18	27	13
Dickinson	6	6	6	e	6	4	2	4	e 4	e 3
Eaton	170	74	e 25	e 1.	e 125	170	170	170	170	e 100
Emmet	57	35	30	14	40	e 37	17	22	63	10
Genesee	212	120	50	26	125	150	10	140	157	157
Gladwin	29	e 15	18	12	15	24	10	20	29	e 10
Gogebic	----	11	11	11	18	11	3	3	11	4
Grand Traverse	66	56	45	35	e 40	37	35	55	66	46
Gratiot	128	85	35	29	11	95	129	100	129	100
Hillsdale	220	100	e 25	e 40	e 60	e 50	e 100	120	166	e 100
Houghton	15	e 38	e 38	e 22	e 38	e 22	e 16	e 24	e 22	e 12
Huron	111	64	78	56	92	87	8	58	110	e 75
Ingham	134	95	66	52	----	103	----	108	118	----
Ionia	143	131	118	83	141	129	132	131	143	83
Iosco	15	19	21	21	1	15	15	10	18	18
Iron	10	34	34	34	34	34	34	34	34	34
Isabella	105	91	78	41	70	105	106	105	105	105
Isle Royal	----	----	----	----	----	----	----	----	----	----
Jackson	160	125	25	20	85	152	158	150	153	154
Kalamazoo	137	125	118	87	23	129	87	99	132	125
Kalkaska	50	37	42	28	50	42	50	50	49	49
Kent	190	170	125	130	e 80	190	33	150	e 150	e 130
Keweenaw	4	10	10	10	----	10	8	8	10	10
Lake	----	----	----	----	----	----	----	----	----	----
Lapeer	135	95	75	70	e 20	110	e 100	e 70	100	75

e Estimated by the commissioner.

TABLE XIII—CONTINUED.

Counties.	No. of districts visited by the commissioner during the year.	No. of schools supplied with dictionaries.	No. of schools supplied with maps.	No. of schools supplied with globes.	No. of schoolhouses properly ventilated and heated.	No. of schools having uniform text-books in each branch.	No. of schools having a prescribed course of study.	No. of schools properly classified.	No. of schools in which physiology, etc., is taught.	No. of districts that have adopted text-books in physiology.
Leelanau	54	e 30	e 10	e 12	1	e 50	e 48	e 48	54	54
Lenawee	176	160	97	85			160	160	195	195
Livingston	100	70	35	45		75		100	120	
Luce	4	6	6	7	2	3	3	3	10	10
Mackinac										
Macomb	113	75	65	38	95	98	97	112	113	65
Manistee	49	40	44	30		51	51	51	51	51
Manitou	4	2	3	2	4	2	2	2	4	4
Marquette	38	42	42	42	42	40	42	30	42	42
Mason	50	55	50	e 20	50	52		40	56	
Mecosta	101	74	68	44	80	82	101	75	90	90
Menominee	42	21	23	22		35	12	12	26	e 20
Midland	67	35	41	36	30	46	4	41	51	
Missaukee	44	35	33	30	2	40	45	44	45	e 30
Monroe	100	80	100	40	50	90	139	139	139	139
Montcalm	105	101	64	45	103	e 110	e 120	120	125	
Montmorency	20	15	14	8	2	15	21	20	21	21
Muskegon		e 75	e 75	e 50	e 25	e 100	30	e 75	e 25	e 5
Newaygo	84	e 90	e 70	e 50	e 50	100	100	e 85	e 95	e 90
Oakland	214	150	50	48	35	140	180	190	176	160
Oceana	96	85	84	75	70	85	86	80	83	78
Ogemaw	41	26	36	23		38	29	35	e 42	e 34
Ontonagon										
Osceola	98	81	76	74	55	80	59	75	90	2
Oscoda	28	10	10	8	19	20	28	28	28	
Otsego	40	40	41	40	35	37	42	36	42	
Ottawa		101	78	51	90	e 118	17		98	e 98
Presque Isle										
Roscommon	5	3	7	5	1	2		1	3	5
Saginaw	153	140	136	64	80	152	11	144	153	153
St. Clair	135	90	60	49	7	120	146	90	130	e 130
St. Joseph		110	75	50			110			
Sanilac	134	95	78	45	1	139	5	142	142	142
Schoolcraft	25	22	34	7	38	27	38	32	38	10
Shiawassee	125	57	119	25	18	105	20	100	125	100
Tuscola	141	e 100	e 80	e 60	e 50	e 50	e 60	e 100	143	143
Van Buren	152	126	57	31	140	145	13	129	e 152	100
Washtenaw	165	101	98	67	58	165	165	165	165	165
Wayne	152	78	120	24	80	42	54	65	120	140
Wexford	65	59	54	60	68	61	73	73	73	e 50

e Estimated by the commissioner.

TABLE XIV.

Miscellaneous statistics as reported by the county commissioners of schools for the year ending July 1, 1894.

Counties.	Number of meetings of county teachers' associations.	Number of meetings of township teachers' associations.	Number of days devoted to meetings of county board.	Amount allowed by board of supervisors for stationery, etc.	Salary of the commissioner.	Amount of institute fees collected.	Amount of compensation received by members of county board other than the commissioner.
Totals	231	130	1,104	$6,160 12	$6,666 65	$10,327 23	$10,604 50
Alcona			4	$6 00	$300 00	$20 50	$32 00
Alger			12	8 00	300 00	7 00	96 00
Allegan	8		21	31 33	1,300 00	262 50	168 00
Alpena			34	e 125 00	550 00	42 50	272 00
Antrim	2	2	18		700 00	98 50	144 00
Arenac			11	15 11	300 00	23 50	88 00
Baraga	1		5	25 00	250 00	12 50	40 00
Barry	4	10	24	54 72	1,200 00	197 50	192 00
Bay	5		20	e 80 00	1,000 00	153 00	160 00
Benzie	3		13	24 48	500 00	61 00	104 00
Berrien	7	5	18	74 00	1,200 00	287 00	144 00
Branch	2		12	e 80 00	1,200 00	195 50	96 00
Calhoun	3	1	21½	e 140 00	1,200 00	220 50	172 00
Cass			24	196 00	1,000 00	133 00	192 00
Charlevoix			8	15 98	600 00	81 50	64 00
Cheboygan			12	27 75	500 00	79 50	96 00
Chippewa	2		30	e 200 00	420 00	48 50	240 00
Clare			1		450 00	51 50	8 00
Clinton	6		25	100 00	1,200 00	167 00	200 00
Crawford			7	12 00	400 00	29 50	56 00
Delta			9	26 50	500 00	65 00	72 00
Dickinson				e 12 00	300 00	11 00	
Eaton	3		12	158 58	1,400 00	220 50	96 00
Emmet			9	e 15 00	600 00	58 50	72 00
Genesee	2	7	6	40 00	1,200 00	210 50	362 00
Gladwin			8	6 00	300 00	e 25 00	64 00
Gogebic			6	10 00	450 00	30 00	48 00
Grand Traverse	1		15	75 00	660 00	98 50	120 00
Gratiot	2		19	96 80	1,200 00	167 50	152 00
Hillsdale	2	4	6	200 00	1,200 00	288 28	48 00
Houghton	1		4	e 27 00	500 00	140 00	32 00
Huron	3		13	153 00	1,000 00	150 00	104 00
Ingham	3		66	e 150 00	1,350 00	307 00	264 00
Ionia	3	16	6	200 00	1,300 00	166 00	48 00
Iosco	3	2	2	7 00	300 00	20 00	16 00
Iron	1		7	200 00	300 00	12 00	56 00
Isabella	2	8	6	24 11	1,000 00	134 50	48 00
Isle Royal							
Jackson	2	4	25	200 00	1,200 00	300 50	200 00
Kalamazoo	5	2	10	127 32	1,350 00	212 50	146 00
Kalkaska	2		12	28 09	500 00	57 00	96 00
Kent	40		45	200 00	1,500 00	440 50	360 00
Keweenaw	1		6	3 50	125 00	19 00	48 00
Lake							
Lapeer	2	5	20	112 00	1,200 00	231 50	160 00

TABLE XIV.—CONTINUED.

Counties.	Number of meetings of county teachers' associations.	Number of meetings of township teachers' associations.	Number of days devoted to meetings of county board.	Amount allowed by board of supervisors for stationery, etc.	Salary of the commissioner.	Amount of institute fees collected.	Amount of compensation received by members of county board other than the commissioner.
Leelanau	1	.....	18	$12 05	$500 00	$43 00	$144 00
Lenawee	2	12	8	e 85 00	1,200 00	316 50	64 00
Livingston	1	.....	6	.....	1,200 00	242 50	48 00
Luce	.....	.....	10	.....	150 00	6 50	80 00
Mackinac	.....	.....	.....	.....	.....	.....	.....
Macomb	1	5	8	e 150 00	1,100 00	144 50	480 00
Manistee	3	.....	6	25 00	500 00	57 00	48 00
Manitou	.....	.....	4	.....	10 00	3 00	32 00
Marquette	.....	3	10	104 00	1,500 00	101 00	80 00
Mason	8	.....	8	115 00	650 00	63 50	64 00
Mecosta	.....	10	7	142 00	1,000 00	197 50	164 00
Menominee	.....	.....	2	15 00	500 00	44 50	16 00
Midland	2	.....	17	53 90	500 00	90 00	186 00
Missaukee	3	.....	12	25 00	500 00	43 50	96 00
Monroe	9	.....	28	100 00	1,200 00	100 00	224 00
Montcalm	3	.....	12	.....	1,200 00	e 133 00	280 00
Montmorency	.....	.....	6	.....	500 00	19 50	48 00
Muskegon	.....	.....	7	175 00	1,400 00	.....	56 00
Newaygo	3	.....	e 35	e 150 00	1,100 00	124 00	280 00
Oakland	3	6	45	180 00	1,200 00	305 00	340 00
Oceana	15	.....	10	150 00	850 00	105 00	80 00
Ogemaw	.....	.....	10	.....	400 00	28 50	80 00
Ontonagon	.....	.....	.....	.....	.....	.....	.....
Osceola	4	6	14	e 100 00	750 00	123 50	112 00
Oscoda	.....	.....	12	18 80	200 00	27 50	96 00
Otsego	2	1	e 22	e 16 75	350 00	47 50	176 00
Ottawa	16	.....	e 14	e 200 00	1,000 00	195 50	112 00
Presque Isle	.....	.....	.....	.....	.....	.....	.....
Roscommon	.....	.....	5	.....	250 00	5 50	40 00
Saginaw	3	.....	10	200 00	1,400 00	279 50	80 00
St. Clair	2	.....	16	.....	1,500 00	182 50	420 50
St. Joseph	2	.....	10	.....	1,200 00	.....	80 00
Sanilac	8	.....	6	.....	1,200 00	444 00	48 00
Schoolcraft	8	.....	16	12 00	300 00	35 50	128 00
Shiawassee	2	20	23	164 85	1,200 00	.....	184 00
Tuscola	.....	.....	8	200 00	1,200 00	240 00	64 00
Van Buren	4	1	5	e 140 00	1,200 00	244 50	196 00
Washtenaw	3	.....	24	84 00	1,500 00	180 50	192 00
Wayne	.....	.....	26	200 00	1,500 00	561 95	540 00
Wexford	2	.....	e 15	55 00	750 00	59 00	120 00

TABLE IV.

Showing the extent to which imprisonment was taught in the schools of the State during the year ending September 1, 1874, compiled from superintendents' reports.

Counties.	No. of districts in the county.	No. of districts reporting imprisonment taught.	No. of districts reporting imprisonment not taught.	No. of districts not reporting.
Totals	1,[illegible]	[illegible]	[illegible]	[illegible]
Alcona	8	2	4	2
Alger	6	5		1
Allegan	126	126	2	12
Alpena	7	6	1	4
Antrim	72	57	2	13
Arenac	8	5	2	1
Barraga	6	2		4
Barry	130	115	15	15
Bay	61	51	7	3
Berrien	68	52	4	12
Branch	120	110	10	12
Brooklyn	108	96	12	24
Calhoun	104	100	10	20
Cass	72	62	7	10
Charlevoix	30	28	1	1
Cheboygan	55	51	4	11
Chippewa	64	62	2	2
Clare	67	65	1	1
Clinton	85	70	1	14
Crawford	24	23	1	1
Delta	1	1		1
Detroit	145	131	14	12
Emmet	56	50	6	8
Genesee	150	137	14	13
Gladwin	6	24	2	1
Gogebic	2	1		1
Grand Traverse	65	58	2	7
Gratiot	101	97	10	24
Hillsdale	107	100	10	20
Houghton	38	32	2	4
Huron	111	103	6	2
Ingham	130	102	10	23
Ionia	142	104	15	19
Iosco	27	22	2	3
Iron	12	9		4
Isabella	100	77	2	15
Isle Royal				
Jackson	130	120	11	19
Kalamazoo	138	105	24	9
Kalkaska	32	26		6
Kent	220	151	21	47
Keweenaw	1			1
Lake	44	36	1	6
Lapeer	122	107	12	16
Leelanau	36	32		3
Lenawee	186	156	16	28
Livingston	122	98	23	24
Luce	4	3		1
Mackinac	26	24	2	2
Macomb	122	99	11	12
Manistee	56	51	1	4
Manitou	4	3		1
Marquette	21	16		5
Mason	35	31	1	4
Mecosta	49	41	4	12
Menominee	37	29	5	8
Midland	62	50	3	9
Missaukee	40	32	2	6
Monroe	140	96	17	27
Montcalm	106	84	19	23
Montmorency	13	9		4
Muskegon	92	78	8	6
Newaygo	111	95	6	10
Oakland	212	145	41	26
Oceana	86	75	4	7
Ogemaw	43	36	1	6
Ontonagon	9	9		
Osceola	92	80	3	9
Oscoda	27	24		3
Otsego	41	33	4	4
Ottawa	130	102	11	7
Presque Isle	34	25	2	4
Roscommon	14	11	2	1
Saginaw	156	151	3	2
St. Clair	153	119	5	29
St. Joseph	134	70	26	26
Sanilac	142	117	10	15
Schoolcraft	19	14	3	2
Shiawassee	127	97	15	12
Tuscola	143	123	10	10
Van Buren	152	112	14	26
Washtenaw	165	125	16	27
Wayne	154	100	19	35
Wexford	71	60	4	7

TABLE XVI.

Graded school statistics compiled from school inspector's reports for the year ending September 4, 1893.

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of school property.	Amount paid for superintendence and instruction.	Average monthly wages of teachers.		Total cost of school.	Total indebtedness.	No. of children that attended school during the year.	No. of days' school.	No. of teachers employed.		Aggregate No. of mos. taught by all teachers.		Total wages of teachers for the year.	
					Men.	Women.					Men.	Women.	Men.	Women.	Men.	Women.
Totals		381,064	$11,532,417	$2,336,637 96	$77 22	$44 65	$4,144,181 02	$1,766,777 63	248,019	108,481	773	4,491	6,966	40,052	$537,955 31	$1,788,592 43
Ada	Kent	124	$5,500	$776 88	$47 69	$38 63	$942 86		119	176	1	2	9	9	$429 25	$347 63
Addison	Lenawee	177	2,000	1,380 00	77 78	25 19	1,854 25	$98 78	148	180	1	4	9	27	700 00	680 00
Adrian	Lenawee	2,616	125,000	16,223 25	130 00	39 75	25,617 88		1,465	186	3	31	30	310	3,900 00	12,323 25
Akron	Tuscola	136	1,500	680 00	40 00	28 00	777 17		102	200	1	1	10	10	400 00	280 00
Alaska	Kent	107	2,000	405 00	45 00		494 19		59	180	1		9		405 00	
Alba	Antrim	118	3,000	900 00	60 00	40 00	1,485 71		125	176	1	1	9	9	540 00	360 00
Albion	Calhoun	1,386	60,000	7,804 50	90 55	35 54	17,861 59	5,000 00	1,074	183	2	18	19	171	1,727 50	6,077 00
Algonac	St. Clair	409	9,000	1,710 00	80 00	36 67	3,361 94	159 92	265	180	1	3	9	27	720 00	990 00
Allegan	Allegan	753	30,000	7,018 22	130 00	38 59	10,576 31	16,000 00	786	190	1	18	9	143	1,300 00	5,718 22
Allen	Hillsdale	120	10,000	1,010 00	55 56	23 18	1,765 97		125	184	1	3	9	22	500 00	510 00
Allouez	Keweenaw	302	2,000	796 25	80 00	33 75	1,086 82		118	140	1	2	7	7	560 00	236 25
Alma	Gratiot	530	20,000	4,207 50	100 00	32 08	6,186 79	13,500 00	505	200	1	10	10	100	1,000 00	3,207 50
Almira Tp. 1	Benzie	209	3,800	957 50	45 00	32 50	4,600 39	2,500 00	118	180	1	3	9	17	405 00	552 50
Almont	Lapeer	317	14,000	2,180 00	70 00	32 17	4,658 28	2,500 00	311	200	1	5	10	46	700 00	1,480 00
Alpena	Alpena	4,125	125,000	14,220 00	100 00	36 19	30,468 46		1,781	200	4	31	30	310	3,000 00	11,220 00
Amadore	Sanilac	92	1,000	405 00	45 00		487 75		62	180	1		9		405 00	
Ann Arbor	Washtenaw	3,073	210,000	31,161 85	141 84	46 10	41,467 87	12,000 00	2,306	190	8	43	80	430	11,337 00	19,824 85
Applegate	Sanilac	143	700	450 00	45 00		607 05		112	200	1		10		450 00	
Armada	Macomb	221	9,000	1,520 00	88 89	26 67	3,229 11	1,900 00	178	180	1	3	9	27	800 00	720 00
Ashley	Gratiot	213	2,200	1,462 50	60 00	29 74	2,142 74	1,485 00	162	200	1	6	10	29	600 00	862 50
Athens	Calhoun	181	4,000	1,437 00	75 00	28 22	2,430 11	1,315 00	140	180	1	3	9	27	675 00	762 00
Atlantic Mine	Houghton	420	6,000	2,600 00	95 00	41 25	3,589 03		295	200	1	4	10	40	950 00	1,650 00
Attica	Lapeer	193	1,500	912 50	48 75	30 88	1,154 07		148	200	1	2	10	17	487 50	425 00
Augusta	Kalamazoo	147	7,000	1,495 00	50 56	32 50	2,012 18		132	180	2	2	18	18	910 00	585 00
Au Sable	Iosco	983	7,000	5,565 00	100 00	44 56	8,215 85		554	190	2	8	20	80	2,000 00	3,565 00
Bad Axe	Huron	451	12,000	2,275 00	70 00	31 50	3,419 85	6,000 00	259	188	1	5	10	50	700 00	1,575 00
Baldwin	Lake	132	2,500	865 00		45 53	985 29	500 00	111	143		2		19		865 00
Bancroft	Shiawassee	171	6,000	1,690 00	85 00	28 00	2,598 84	2,880 00	195	194	1	3	10	30	850 00	840 00
Bangor Tp. 2 fl.	Van Buren	346	5,000	2,043 50	44 78	35 36	2,491 93		297	180	2	4	18	35	806 00	1,237 50
Baraga	Baraga	606	15,000	3,290 00	75 00	40 68	7,746 66		461	200	2	6	20	44	1,500 00	1,790 00

TABLE XV.

Showing the extent to which physiology was taught in the schools of the State during the year ending September 4, 1893, compiled from inspectors' reports.

Counties.	No. of districts in the county.	No. of districts reporting physiology taught.	No. of districts reporting physiology not taught.	No. of districts not reporting.
Totals	7,165	5,584	649	932
Alcona	29	22	4	3
Alger	6	5		1
Allegan	184	150	22	12
Alpena	27	18	3	6
Antrim	78	58	3	12
Arenac	33	25	3	5
Baraga	4	3		1
Barry	148	114	19	15
Bay	61	51	3	7
Benzie	48	32	4	12
Berrien	151	116	10	25
Branch	130	94	12	24
Calhoun	164	120	16	28
Cass	115	92	7	16
Charlevoix	70	58	7	5
Cheboygan	54	39	4	11
Chippewa	42	40	2	
Clare	42	33	7	2
Clinton	129	105	5	19
Crawford	39	32	4	3
Delta	39	25	7	7
Dickinson	9	7	1	1
Eaton	148	119	14	15
Emmet	59	50	6	3
Genesee	159	132	14	13
Gladwin	27	24	2	1
Gogebic	8	7		1
Grand Traverse	65	55	3	7
Gratiot	131	97	10	24
Hillsdale	167	120	18	29
Houghton	34	22	8	4
Huron	111	103	6	2
Ingham	136	103	10	23
Ionia	143	109	15	19
Iosco	27	22	2	3
Iron	13	9		4
Isabella	100	77	8	15
Isle Royal				
Jackson	159	130	11	18
Kalamazoo	138	105	24	9
Kalkaska	52	46		6
Kent	209	151	21	37
Keweenaw	7	7		
Lake	44	35	1	8
Lapeer	136	107	13	16
Leelanau	54	53		1
Lenawee	199	159	16	24
Livingston	135	80	21	34
Luce	4	3		1
Mackinac	33	26	5	2
Macomb	112	89	11	12
Manistee	54	51	1	2
Manitou	4	3		1
Marquette	21	16		5
Mason	55	49	2	4
Mecosta	98	81	4	13
Menominee	37	29	5	3
Midland	62	50	3	9
Missaukee	46	35	2	9
Monroe	140	86	17	37
Montcalm	133	94	19	25
Montmorency	13	9		4
Muskegon	92	78	8	6
Newaygo	111	93	8	10
Oakland	212	145	41	26
Oceana	86	75	4	7
Ogemaw	43	36	1	6
Ontonagon	9	9		
Osceola	92	80	3	9
Oscoda	27	24		3
Otsego	41	33	4	4
Ottawa	120	102	11	7
Presque Isle	34	28	2	4
Roscommon	14	11	2	1
Saginaw	156	151	3	2
St. Clair	153	119	5	29
St. Joseph	124	70	28	26
Sanilac	142	117	10	15
Schoolcraft	19	14	3	2
Shiawassee	127	97	18	12
Tuscola	143	123	10	10
Van Buren	152	112	14	26
Washtenaw	168	125	16	27
Wayne	154	100	19	35
Wexford	71	60	4	7

TABLE XVI.

Graded school statistics compiled from school inspector's reports for the year ending September 4, 1893.

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of school property.	Amount paid for superintendence and instruction.	Average monthly wages of teachers.		Total cost of school.	Total indebtedness.	No. of children that attended school during the year.	No. of days' school.	No. of teachers employed.		Aggregate No. of mos. taught by all teachers.		Total wages of teachers for the year.	
					Men.	Women.					Men.	Women.	Men.	Women.	Men.	Women.
Totals		381,064	$11,532,417	$2,336,637 96	$77 22	$14 65	$4,144,181 02	$1,766,777 63	248,049	108,481	773	4,491	6,966	40,052	$537,955 31	$1,788,592 43
Ada	Kent	124	$5,500	$776 88	$47 69	$38 63	$912 86		119	176	1	2	9	9	$429 25	$347 63
Addison	Lenawee	177	2,000	1,380 00	77 78	25 19	1,854 25	$98 78	148	180	1	4	9	27	700 00	680 00
Adrian	Lenawee	2,616	125,000	16,223 25	130 00	39 75	25,617 88		1,465	186	3	31	30	310	3,900 00	12,323 25
Akron	Tuscola	136	1,500	680 00	40 00	28 00	777 17		102	200	1	1	10	10	400 00	280 00
Alaska	Kent	107	2,000	405 00	45 00		494 19		59	180	1		9		405 00	
Alba	Antrim	118	3,000	900 00	60 00	40 00	1,485 71		125	176	1	1	9	9	540 00	360 00
Albion	Calhoun	1,386	60,000	7,804 50	90 55	35 54	17,861 59	5,000 00	1,074	183	2	18	19	171	1,727 50	6,077 00
Algonac	St. Clair	409	9,000	1,710 00	80 00	36 67	3,361 94	159 92	265	180	1	3	9	27	720 00	990 00
Allegan	Allegan	753	30,000	7,018 22	130 00	38 59	10,576 31	16,000 00	786	190	1	18	9	143	1,300 00	5,718 22
Allen	Hillsdale	120	10,000	1,010 00	55 56	23 18	1,765 97		125	184	1	3	9	22	500 00	510 00
Allouez	Keweenaw	302	2,000	796 25	80 00	33 75	1,086 82		118	140	1	2	7	7	560 00	236 25
Alma	Gratiot	530	20,000	4,207 50	100 00	32 08	6,186 79	13,500 00	505	200	1	10	10	100	1,000 00	3,207 50
Almira Tp. 1	Benzie	209	3,800	957 50	45 00	32 50	4,600 39	2,500 00	118	180	1	3	9	17	405 00	552 50
Almont	Lapeer	317	14,000	2,180 00	70 00	32 17	4,658 28	2,500 00	311	200	1	5	10	46	700 00	1,480 00
Alpena	Alpena	4,125	125,000	14,220 00	100 00	36 19	30,468 46		1,784	200	4	31	30	310	3,000 00	11,220 00
Amadore	Sanilac	92	1,000	405 00	45 00		487 75		62	180	1		9		405 00	
Ann Arbor	Washtenaw	3,073	210,000	31,161 85	141 84	46 10	41,467 87	12,000 00	2,306	190	8	43	80	430	11,337 00	19,824 85
Applegate	Sanilac	143	700	450 00	45 00		607 05		112	200	1		10		450 00	
Armada	Macomb	221	9,000	1,520 00	88 89	26 67	3,229 11	1,900 00	178	180	1	3	9	27	800 00	720 00
Ashley	Gratiot	213	2,200	1,462 50	60 00	29 74	2,142 74	1,485 00	162	200	1	6	10	29	600 00	862 50
Athens	Calhoun	181	4,000	1,437 00	75 00	28 22	2,430 11	1,315 00	140	180	1	3	9	27	675 00	762 00
Atlantic Mine	Houghton	420	6,000	2,800 00	95 00	41 25	3,589 03		295	200	1	4	10	40	950 00	1,650 00
Attica	Lapeer	198	1,500	912 50	48 75	30 88	1,154 07		148	200	1	2	10	17	487 50	425 00
Augusta	Kalamazoo	147	7,000	1,495 00	50 56	32 50	2,012 18		132	180	2	2	18	18	910 00	585 00
Au Sable	Iosco	983	7,000	5,565 00	100 00	44 56	8,215 85		554	190	2	8	20	80	2,000 00	3,565 00
Bad Axe	Huron	451	12,000	2,275 00	70 00	31 50	3,419 85	6,000 00	259	188	1	5	10	50	700 00	1,575 00
Baldwin	Lake	132	2,500	865 00		45 53	985 29	500 00	111	143		2		19		865 00
Bancroft	Shiawassee	171	6,000	1,690 00	85 00	28 00	2,586 84	2,880 00	195	194	1	3	10	30	850 00	840 00
Bangor Tp. 2 fl.	Van Buren	346	5,000	2,043 50	44 78	35 36	2,491 93		297	180	2	4	18	35	806 00	1,237 50
Baraga	Baraga	606	15,000	3,290 00	75 00	40 68	7,746 66		461	200	2	6	20	44	1,500 00	1,790 00

TABLE XVI.—CONTINUED.

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of school property.	Amount paid for superintendence and instruction.	Average monthly wages of teachers.		Total cost of school.	Total indebtedness.	No. of children that attended school during the year.	No. of days school.	No. of teachers employed.		Aggregate No. of mos. taught by all teachers.		Total wages of teachers for the year.	
					Men.	Women.					Men.	Women.	Men.	Women.	Men.	Women.
Clio	Genesee	243	$6,000	$1,431 50	$60 00	$27 72	$1,959 29	$5,000 00	184	196	1	5	10	30	$800 00	$831 50
Coldwater	Branch	1,345	86,000	11,550 30	88 33	35 60	18,432 42	28,500 00	1,180	196	3	25	30	250	2,650 00	8,900 30
Coleman	Midland	433	1,500	1,230 00	50 00	20 42	1,518 00	.....	313	200	1	3	10	24	500 00	730 00
Coloma	Berrien	204	6,300	885 00	55 00	26 00	6,199 88	5,500 00	160	180	1	2	9	15	495 00	390 00
Colon	St. Joseph	137	3,000	1,170 00	60 00	35 00	1,418 42	.....	122	180	1	2	9	18	540 00	630 00
Columbiaville	Lapeer	175	.....	1,175 00	50 00	25 00	1,900 37	.....	178	194	1	3	10	27	500 00	675 00
Comstock	Kalamazoo	114	1,750	585 00	72 00	56 25	717 80	.....	83	180	1	1	5	4	360 00	225 00
Concord	Jackson	163	7,000	2,094 50	85 00	32 75	2,941 24	.....	128	180	1	4	10	38	850 00	1,244 50
Constantine	St. Joseph	297	32,000	3,400 00	90 00	35 71	4,412 59	.....	277	200	1	7	10	70	900 00	2,500 00
Coopersville	Ottawa	240	5,000	1,662 50	52 25	30 00	2,351 15	.....	202	190	1	4	10	38	522 50	1,140 00
Coral	Montcalm	174	3,000	650 00	.....	32 50	948 18	.....	145	200	.....	2	.....	20	.....	650 00
Corunna	Shiawassee	417	28,000	3,920 00	100 00	32 44	5,212 25	.....	313	190	1	9	10	90	1,000 00	2,920 00
Covert	Van Buren	174	2,000	810 00	40 00	25 00	964 12	1 32	150	180	1	2	9	18	360 00	450 00
Croswell	Sanilac	326	6,000	1,814 63	64 28	29 30	2,344 37	1,000 00	283	200	1	4	10	40	642 75	1,171 88
Craw Island	Saginaw	140	800	380 00	33 33	40 00	545 76	.....	68	185	1	1	3	7	100 00	280 00
Crystal	Montcalm	93	4,000	600 00	44 44	22 22	790 22	350 00	72	180	1	1	9	9	400 00	200 00
Crystal Falls	Iron	484	22,000	5,600 00	130 00	47 78	16,483 81	14,000 00	406	200	1	9	10	90	1,300 00	4,300 00
Custer	Mason	139	2,500	720 00	50 00	30 00	866 05	265 00	114	178	1	1	9	9	450 00	270 00
Dansville	Ingham	135	4,000	1,398 00	60 00	27 52	2,001 27	.....	143	190	1	3	10	29	600 00	798 00
Davisburg	Oakland	67	1,500	425 00	40 00	25 00	554 21	.....	48	180	1	1	5	9	200 00	225 00
Davison	Genesee	204	3,500	1,150 00	45 00	23 33	1,310 82	.....	210	200	1	4	10	30	450 00	700 00
Dearborn	Wayne	300	1,900	1,187 50	60 00	29 38	1,309 90	.....	193	200	1	2	10	20	600 00	587 50
Decatur	Van Buren	368	15,000	3,138 00	100 00	36 24	4,172 36	.....	316	195	1	8	10	59	1,000 00	2,138 00
Deerfield	Lenawee	244	6,000	1,423 00	61 11	24 25	2,412 30	2,000 00	180	180	1	4	9	36	550 00	873 00
Detroit	Wayne	73,167	1,660,102	391,499 99	151 46	60 40	686,677 83	.....	39,925	200	26	583	260	5,830	39,379 25	352,120 74
De Witt	Clinton	132	5,500	670 00	44 44	30 00	821 37	.....	91	180	1	1	9	9	400 00	270 00
Dexter	Washtenaw	254	18,000	2,640 00	75 71	28 21	3,938 50	12,000 00	208	200	2	6	14	56	1,060 00	1,580 00
Dimondale	Eaton	125	2,000	720 00	50 00	30 00	843 22	.....	97	180	1	1	9	9	450 00	270 00
Dollar Bay	Houghton	187	5,600	1,362 00	52 50	44 89	3,544 05	.....	150	200	1	4	2	28	105 00	1,257 00
Douglas	Allegan	180	3,000	1,140 00	66 67	30 00	1,505 43	.....	129	178	1	2	9	18	600 00	540 00
Dowagiac	Cass	947	40,000	7,494 75	77 00	34 57	13,990 10	16,900 00	765	195	3	15	30	150	2,310 00	5,184 75
Downington	Sanilac	260	4,000	800 00	50 00	25 00	1,243 12	1,000 00	180	200	1	2	6	20	300 00	500 00
Dreuthe	Ottawa	105	2,500	585 00	45 00	20 00	739 13	.....	80	180	1	1	9	9	405 00	180 00
Dryden	Lapeer	159	4,000	1,217 50	67 50	27 13	1,515 66	.....	136	192	1	2	10	20	675 00	542 50
Dundee	Monroe	402	20,000	3,162 50	57 50	28 75	4,397 43	9,000 00	299	180	2	7	20	70	1,150 00	2,012 50

Durand	Shiawassee	241	6,000	1,410 00	57 00	28 00	2,388 44	3,200 00	158	200	1	3	10	30	570 00	840 00
Dushville	Isabella	95	1,600	423 00	33 67	30 00	515 80		94	180	1	1	9	4	303 00	120 00
East Holland	Ottawa	105	400	360 00	40 00		430 41		65	180	1		9		360 00	
East Jordan	Charlevoix	370	8,000	2,050 00	80 00	31 25	3,155 04	6,000 00	251	198	1	4	10	40	800 00	1,250 00
East Lake	Manistee	541	4,000	1,935 00	60 56	43 67	2,849 14		304	200	1	3	10	30	605 00	1,339 00
East Tawas	Iosco	730	5,600	2,695 00	90 82	24 31	6,074 60		710	200	2	7	12	68	1,090 00	2,605 00
Eaton Rapids	Eaton	614	25,000	5,000 00	77 50	21 86	6,807 56		475	200	2	11	20	110	1,550 00	3,450 00
Ecorse	Wayne	300	5,000	1,100 00	50 00	30 00	2,096 59	500 00	241	200	1	2	10	20	500 00	600 00
Ecorse Tp. 4	Wayne	342	7,000	1,010 00	60 00	27 65	1,519 54	5,000 00	225	174	1	2	9	17	540 00	470 00
Edenvillle	Midland	99	1,500	450 00		50 00	826 10		59	189		1		9		450 00
Edmore	Montcalm	230	2,500	1,500 60	60 00	30 00	1,803 14		231	200	1	3	10	30	600 00	900 00
Edwardsburg	Cass	132	3,000	1,317 50	45 00	32 50	1,656 50		121	170	2	2	17	17	765 00	552 50
Elk Rapids	Antrim	473	27,000	4,360 00	120 00	29 50	6,538 83	13,000 00	443	188	1	10	10	80	1,200 00	3,160 00
Elm Hall	Gratiot	90	1,500	657 00	45 00	28 00	955 83		74	180	1	1	9	9	405 00	252 00
Elmira	Otsego	153	1,200	825 00	55 00	36 67	1,040 23		122	180	1	1	9	9	495 00	330 00
Elsie	Clinton	240	2,500	1,391 94	66 66	29 33	1,580 42		202	180	1	3	9	27	599 94	792 00
Erie	Monroe	205	4,000	652 50	47 50	25 00	795 36		172	180	1	1	9	9	427 50	225 00
Escanaba	Delta	2,214	51,000	7,250 00	150 00	44 23	13,249 74	10,000 00	957	199	1	13	10	130	1,500 00	5,750 00
Essexville	Bay	633	7,000	1,382 00	70 00	29 40	2,565 45		168	200	1	5	10	30	700 00	1,162 00
Evart	Osceola	488	6,000	4,025 00	100 00	37 81	5,146 26		450	200	1	8	10	80	1,000 00	3,025 00
Farmington	Oakland	116	5,000	1,115 00	70 00	20 75	1,586 81	1,500 00	98	200	1	2	10	20	700 00	415 00
Farwell	Clare	225	4,800	1,270 00		35 28	1,716 39		128	189		4		36		1,270 00
Fennville	Allegan	192	4,800	600 00	45 00	30 00	2,850 37	3,000 00	162	180	1	1	8	8	360 00	240 00
Fenton	Genesee	549	50,000	5,812 50	83 10	27 10	9,872 99		604	200	2	11	20	110	1,642 50	4,170 00
Ferrysburg	Ottawa	198	2,000	848 00	50 00	23 41	1,089 67		115	180	1	2	9	17	450 00	398 00
Fife Lake	Gd. Traverse	147	4,000	765 00	50 00	25 00	1,089 77	642 00	110	180	1	1	9	9	450 00	315 00
Filer City	Manistee	246	3,300	985 00	55 00	43 50	1,770 96		135	200	1	1	10	10	550 00	495 00
Fillmore Tp. 1	Allegan	136	2,000	510 00	37 14	27 78	654 38		104	180	1	1	7	9	260 00	256 00
Fillmore Tp. 2	Allegan	181	2,750	730 00		36 50	836 09		136	200		2		20		730 00
Fillmore Tp. 3	Allegan	129	800	468 00		29 25	583 80		99	180		2		16		468 00
Fillmore Tp. 4	Allegan	142	900	472 00		29 50	599 94		109	160		2		16		472 00
Fillmore Tp. 5 fl	Allegan	96	900	331 50		26 78	402 28		63	184	2		9		331 50	
Flat Rock	Wayne	245	12,000	1,405 76	70 58	23 33	1,940 16		145	200	1	3	10	30	705 76	700 00
Flint	Genesee	2,677	145,000	18,491 30	125 00	39 98	31,002 31	39,720 00	1,907	190	2	40	20	400	2,500 00	15,991 30
Flower Creek	Oceana	74	2,200	280 00		35 00	405 98	40 00	58	155		1		8		280 00
Flushing	Genesee	248	8,000	2,200 00	85 00	33 75	3,359 20		184	198	1	4	10	40	850 00	1,350 00
Ford River	Delta	194	3,000	950 00	50 00	45 00	1,326 34		187	183	1	1	10	10	500 00	450 00
Forestville	Sanilac	166	1,000	460 00	40 00	20 00	650 14		107	180	1	1	9	5	360 00	100 00
Fostoria	Tuscola	143	3,600	700 00	45 00	25 00	869 75		107	200	1	1	10	10	450 00	250 00
Fowler	Clinton	107	1,500	675 00	50 00	25 00	865 06		60	180	1	2	9	9	450 00	225 00
Fowlerville	Livingston	339	10,000	2,710 00	75 00	28 00	3,823 34	4,000 00	258	200	1	8	10	70	750 00	1,960 00
Frankenmuth	Saginaw	311		1,025 00	51 25		1,185 05		178	198	2		20		1,025 00	
Frankfort	Benzie	528	6,000	3,490 90	80 00	34 05	5,221 40		414	200	1	8	10	79	800 00	2,690 00
Franklin Tp. 1	Houghton	224	1,200	1,640 00	70 00	47 00	2,000 38		113	199	1	2	10	20	700 00	940 00
Franklin Tp. 2	Houghton	261	4,000	1,700 00	80 00	45 00	2,466 23		152	200	1	2	10	20	800 00	900 00
Franklin Tp. 5	Houghton	305	2,000	1,785 00	61 75	27 50	2,290 58		176	194	2	2	20	20	1,285 00	550 00

TABLE XVI.—Continued.

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of school property.	Amount paid for superintendence and instruction.	Average monthly wages of teachers.		Total cost of school.	Total indebtedness.	No. of children that attended school during the year.	No. of days school.	No. of teachers employed.		Aggregate No. of mos. taught by all teachers.		Total wages of teachers for the year.	
					Men.	Women.					Men.	Women.	Men.	Women.	Men.	Women.
Freeland	Saginaw	144	$2,000	$630 00	$40 00	$30 00	$762 43		101	180	1	1	9	9	$360 00	$270 00
Freeport	Barry	122	800	571 00	40 00	23 44	714 52		121	180	1	3	9	9	360 00	211 00
Freesoil	Mason	140	1,500	585 00	.....	32 50	885 50		92	180	.....	3	.....	18	.....	585 00
Fremont	Newaygo	621	10,000	2,650 00	80 00	30 83	4,548 22	820 00	411	200	1	6	10	60	800 00	1,850 00
Fruitport	Muskegon	110	2,500	765 00	55 00	30 00	829 60		84	180	1	1	9	9	495 00	270 00
Fulton	Kalamazoo	115	1,500	503 00	48 00	19 44	594 70		90	180	1	5	4	16	192 00	311 00
Gains Station	Genesee	126	5,000	1,116 87	49 50	31 09	1,659 26		108	194	1	2	10	20	495 00	621 87
Galesburg	Kalamazoo	169	10,000	2,084 00	65 00	32 00	2,556 02		184	180	2	3	18	27	1,170 00	864 00
Galien	Berrien	196	5,000	1,560 00	83 33	30 00	1,871 70		180	180	1	3	9	27	750 00	810 00
Garden	Delta	295	3,000	1,305 00	55 00	35 00	1,472 87		217	180	2	1	18	9	990 00	315 00
Gaylord	Otsego	227	10,000	1,400 00	55 56	33 33	3,101 17	8,500 00	174	180	1	3	9	27	500 00	900 00
Girard	Branch	70	.....	585 00	40 00	25 00	684 19	.....	65	175	1	1	9	9	360 00	225 00
Gladstone	Delta	482	20,000	2,610 00	100 00	38 33	5,378 19	17,500 00	368	195	1	5	10	42	1,000 00	1,610 00
Gladwin	Gladwin	263	4,000	1,700 00	65 00	35 00	2,020 66	.....	230	200	1	3	10	30	650 00	1,050 00
Gobleville	Van Buren	187	3,700	1,555 00	51 84	30 00	1,917 78	.....	184	189	2	2	19	19	985 00	570 00
Goodrich	Genesee	92	2,000	588 00	36 67	28 67	648 11	.....	77	180	1	1	9	9	330 00	258 00
Graafschap	Allegan	151	1,200	530 00	41 67	28 00	607 53	.....	114	160	1	2	6	10	250 00	280 00
Grand Blanc	Genesee	104	2,500	720 00	40 00	32 00	806 33	2,000 00	69	194	1	1	10	10	400 00	320 00
Grand Haven	Ottawa	1,321	50,000	12,880 00	100 00	41 85	25,900 26	.....	1,263	196	2	26	20	260	2,000 00	10,880 00
Grand Junction	Van Buren	126	3,500	585 00	40 00	25 00	789 65	625 00	93	180	1	1	9	9	360 00	225 00
Grand Ledge Tp. 9	Eaton	305	12,000	2,270 00	85 00	33 81	3,270 37	3,000 00	303	200	1	5	10	42	850 00	1,420 00
Grand Ledge Tp. 11 fl.	Eaton	368	8,000	1,600 00	55 00	35 00	2,253 56	.....	237	200	1	3	10	30	550 00	1,050 00
Grand Rapids	Kent	23,482	1,116,000	168,127 28	101 38	54 80	347,698 78	272,900 00	18,152	190	14	297	133	2,822	13,483 22	154,644 16
Grandville	Kent	245	10,000	1,810 00	70 00	32 65	2,793 61	.....	167	200	1	5	10	34	700 00	1,110 00
Grass Lake	Jackson	183	8,000	2,040 00	80 00	31 00	3,658 61	700 00	146	200	1	5	10	40	800 00	1,240 00
Grattan	Kent	110	2,000	850 00	50 00	25 00	1,048 90	.....	93	200	1	1	10	10	500 00	350 00
Grayling	Crawford	400	10,000	3,450 00	100 00	35 00	5,054 08	.....	322	200	1	8	10	70	1,000 00	2,450 00
Greenville	Montcalm	862	43,000	7,864 00	120 00	36 47	11,230 75	.....	773	195	1	18	10	180	1,200 00	6,564 00
Grindstone City	Huron	298	2,500	1,350 00	70 00	32 50	1,559 23	.....	211	190	1	2	10	20	700 00	650 00
Grosse Isle	Wayne	280	3,000	1,312 50	.....	26 45	2,045 96	.....	98	200	.....	4	.....	26	.....	1,312 50
Hadley	Lapeer	98	2,900	972 50	59 00	22 50	1,173 07	.....	120	190	1	2	10	17	590 00	382 50
Hamilton	Allegan	104	1,800	450 00	30 00	20 00	545 75	.....	70	180	1	1	9	9	270 00	180 00
Hamtramck	Wayne	110	2,550	240 00	.....	30 00	675 66	.....	53	160	.....	1	.....	8	.....	240 00
Hamtramck Tp. 8	Wayne	138	1,800	480 00	60 00	.....	1,843 08	.....	75	148	1	.....	8	.....	480 00	.....
Hancock	Houghton	1,251	40,000	7,417 50	127 50	45 50	18,349 61	19,000 00	706	200	2	12	20	107	2,550 00	4,867 50

Hanover	Jackson	142	8,000	1,520 00	63 00	30 00	2,030 12		130	190	1	2	10	30	630 00	900 00
Harbor Springs	Emmet	352	5,000	2,014 00	77 78	36 50	2,570 78	1,700 00	172	180	1	4	9	36	700 00	1,314 00
Harrison	Clare	194	3,500	1,647 50	65 00	35 60	2,241 49		226	188	1	3	10	28	650 00	997 50
Harrisville	Alcona	279	4,000	1,555 00	51 76	37 50	2,194 23	200 00	271	180	2	3	17	18	880 00	675 00
Hart	Oceana	320	15,000	1,915 00	77 78	38 75	10,546 68	8,900 00	207	180	1	4	9	36	700 00	1,215 00
Hartford	Van Buren	337	4,000	2,543 20	90 00	33 52	3,183 13		313	180	1	5	9	45	810 00	1,733 20
Hastings	Barry	925	50,000	7,110 53	85 00	33 33	13,257 44	7,000 00	925	195	2	16	20	160	1,700 00	5,410 53
Hermansville	Menominee	226		902 50	48 75	41 50	1,328 65		126	200	2	1	10	10	487 50	415 00
Hersey	Osceola	125	3,500	1,200 00	60 00	30 00	1,378 11		90	195	1	2	10	20	600 00	600 00
Hesperia	Newaygo	262	4,000	1,495 00	61 11	35 00	1,974 13		224	180	1	3	9	27	550 00	945 00
Highland Park	Wayne	100	7,374	950 00		47 50	3,198 75	6,000 00	67	200		2		20		950 00
Highland Station	Oakland	132	1,500	700 00	40 00	30 00	777 02		99	195	1	1	10	10	400 00	300 00
Hillman	Montmorency	194	4,500	1,385 00	96 72	30 00	1,904 77		144	195	3	1	29	10	1,095 00	300 00
Hillsdale	Hillsdale	1,182	40,000	7,899 88	77 59	37 17	10,780 57	3,000 00	896	190	3	16	29	152	2,250 00	5,649 88
Holland	Ottawa	1,815	42,000	8,374 25	180 00	31 31	14,446 90	23,400 00	1,375	200	2	22	10	210	1,800 00	6,574 25
Holland Tp. 3	Ottawa	119	1,800	356 00	35 60		440 22		102	188	1		10		356 00	
Holland Tp. 9	Ottawa	129	2,000	450 00	45 00		544 62	850 00	88	200	1		10		450 00	
Holly	Oakland	409	15,500	3,420 00	100 00	34 57	4,120 58		371	200	1	7	10	70	1,000 00	2,420 00
Holt	Ingham	126	1,800	774 00	45 00	23 00	936 19		119	180	1	2	8	18	360 00	414 00
Homer	Calhoun	312	15,000	2,500 00		35 71	3,931 52	11,000 00	300	200		7		70		2,500 00
Hopkins Station	Allegan	113	3,000	670 00	44 44	30 00	869 74	590 72	110	180	1	1	9	9	400 00	270 00
Horton	Jackson	93	2,500	918 00	50 00	26 00	1,096 09		82	180	1	2	9	18	450 00	468 00
Houghton	Houghton	1,225	40,000	8,290 00	103 33	45 60	13,413 37		511	199	3	12	30	116	3,100 00	5,290 00
Howard City	Montcalm	379	4,000	2,515 75	75 00	30 98	3,155 85		341	185	1	6	10	57	750 00	1,765 75
Howell	Livingston	616	30,000	5,680 00	75 00	32 15	10,392 35		591	200	2	13	20	130	1,500 00	4,180 00
Hubbardston	Ionia	168	4,000	1,080 00	60 00	30 00	1,287 86		125	180	1	2	9	18	540 00	540 00
Hudson Tp. 5	Lenawee	247	7,000	1,882 50	100 00	27 29	2,617 19	2,202 52	200	180	1	5	9	36	900 00	982 50
Hudson	Lenawee	376	16,000	3,954 25	57 56	26 25	6,232 04	5,225 69	339	180	5	10	24	98	1,381 50	2,572 75
Hudsonville	Ottawa	140	2,000	585 00	44 44	20 56	1,616 76	900 00	107	177	1	2	9	9	400 00	185 00
Humboldt	Marquette	64	3,000	400 00		40 00	947 44		43	200		1		10		400 00
Ida	Monroe	124	1,500	475 00	36 11	30 00	592 77		104	180	1	1	9	5	325 00	150 00
Imlay City	Lapeer	481	15,000	3,120 00	100 00	30 72	4,264 58	4,500 00	343	200	1	8	10	69	1,000 00	2,120 00
Ionia	Ionia	1,875	60,060	12,795 80	130 00	45 98	16,994 30		1,121	198	1	25	10	250	1,800 00	11,495 80
Iron Mountain	Dickinson	2,201	85,000	15,251 75	105 00	47 27	42,150 42	47,137 87	1,663	200	2	28	20	274	2,300 00	12,951 75
Iron River	Iron	262	4,000	2,950 00	90 00	51 35	5,242 50	3,000 00	250	200	1	4	10	40	900 00	2,050 00
Ironton	Charlevoix	97	3,000	589 50	51 43	28 69	970 25		71	150	3	1	7	8	360 00	229 50
Ironwood	Gogebic	2,168	56,000	14,070 00	180 00	53 20	35,380 29	12,000 00	1,370	180	1	24	10	240	1,800 00	12,270 00
Ishpening	Marquette	3,990	85,000	18,158 50	200 00	52 12	32,786 16	16,000 00	2,309	196	1	31	10	310	2,000 00	16,158 50
Ithaca	Gratiot	600	20,000	4,567 75	60 00	34 60	7,056 05	14,175 00	484	198	3	10	30	80	1,800 00	2,767 75
Jackson No. 1	Jackson	2,934	110,000	25,514 10	86 25	55 16	45,315 32	20,000 00	2,247	193	4	43	40	400	3,450 00	22,064 10
Jackson No. 17	Jackson	3,000	82,000	12,761 25	150 00	32 18	23,201 79	17,474 68	1,820	185	1	35	10	350	1,500 00	11,261 25
Jamestown	Ottawa	132	2,000	702 00	50 00	28 00	905 16		100	180	1	1	9	9	450 00	252 00
Jasper	Lenawee	102	2,000	585 00	40 00	25 00	688 13		82	180	1	1	9	9	360 00	225 00
Jennings	Missaukee	128	1,000	1,000 00	60 00	40 00	1,272 69		120	200	1	1	10	10	600 00	400 00
Jonesville	Hillsdale	405	20,000	3,348 25	100 00	40 49	4,571 58	295 74	345	200	1	8	10	58	1,000 00	2,348 25
Kalamazoo	Kalamazoo	5,971	300,000	34,487 50	170 00	41 76	64,247 14	20,000 00	3,882	184	2	75	20	730	3,400 00	31,087 50

TABLE XVI.—CONTINUED.

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of school property.	Amount paid for superintendance and instruction.	Average monthly wages of teachers.		Total cost of school.	Total indebtedness.	No. of children that attended school during the year.	No. of days school.	No. of teachers employed.		Aggregate No. of mos. taught by all teachers.		Total wages of teachers for the year.	
					Men.	Women.					Men.	Women.	Men.	Women	Men.	Women.
Kalkaska	Kalkaska	316	$9,000	$2,950 00	$80 56	$41 67	$4,032 93		259	180	2	4	18	36	$1,450 00	$1,500 00
Kendall	Van Buren	98	2,000	430 00	40 00	24 55	525 55	$8 60	75	180	1	2	4	11	160 00	270 00
Kent City	Kent	158	2,850	923 45	47 88	26 16	1,156 74	338 71	141	200	1	2	10	17	478 75	444 70
Kingsley	G'd Traverse	176	1,200	752 00		41 78	1,018 85	500 00	111	180		2		18		752 00
Kingston	Tuscola	166	1,200	652 00	50 00	28 00	795 73		113	180	1	1	8	9	400 00	252 00
Kochville Tp. 3	Saginaw	135	1,800	536 00	40 00	27 00	699 52		80	160	1	1	8	8	320 00	216 00
Laingsburg	Shiawassee	243	5,000	1,600 00	70 00	30 00	1,891 07		219	200	1	3	10	30	700 00	900 00
Lake City	Missaukee	270	4,000	1,650 00	65 00	39 44	2,714 47	3,000 00	186	180	1	4	9	27	585 00	1,065 00
Lake Linden	Houghton	1,939	25,000	11,516 26	150 00	45 53	16,241 14		947	199	1	24	10	220	1,500 00	10,016 26
Lake Odessa	Ionia	257	10,000	1,865 00	70 00	30 66	2,840 27	6,000 00	246	190	1	4	10	38	700 00	1,165 00
Lakeview	Montcalm	340	3,000	2,007 50	70 00	30 41	2,454 41		160	200	1	5	10	43	700 00	1,807 50
Lamont	Ottawa	80	1,200	420 00		30 00	542 02		64	170		2		14		420 00
L'Anse	Baraga	556	7,000	4,600 00	120 00	51 52	7,013 47	900 00	380	194	1	7	10	66	1,200 00	3,400 00
Lansing	Ingham	4,960	145,000	26,610 75	110 53	45 46	60,098 82	4,800 00	4,167	183	4	53	38	493	4,200 00	22,410 75
Lapeer	Lapeer	789	32,000	5,990 00	81 50	31 14	9,506 00		691	200	2	14	20	140	1,630 00	4,360 00
Lawrence	Van Buren	185	8,000	1,952 00	88 89	32 00	2,587 58		177	180	1	4	9	36	800 00	1,152 00
Lawton	Van Buren	239	12,000	1,892 00	57 00	29 36	1,982 82		242	190	1	3	10	28	570 00	822 00
Leonard	Oakland	126	4,000	672 50	52 50	25 00	1,114 31	2,500 00	126	177	1	1	9	8	472 50	200 00
LeRoy	Osceola	211	4,000	1,350 00	60 00	30 00	1,996 00	3,500 00	194	180	1	3	9	27	540 00	810 00
LeRoy Tp. 1	Osceola	93	800	279 00		31 00	491 97		58	174		2		9		279 00
Leslie	Ingham	327	9,000	2,650 00	95 00	54 00	4,201 03	1,100 00	289	193	1	5	10	50	950 00	1,700 00
Lexington	Sanilac	252	10,000	1,840 00	70 00	28 50	11,871 54	3,700 00	180	195	1	4	10	40	700 00	1,140 00
Linden	Genesee	159	4,000	1,100 00	42 50	25 00	1,267 57		155	200	2	1	20	10	850 00	250 00
Linwood	Bay	132	950	500 00	50 00		570 25		94	200	1		10		500 00	
Lisbon	Ottawa	122	1,000	804 00	59 67	29 89	985 48		105	179	1	1	9	9	537 00	267 00
Litchfield	Hillsdale	181	10,000	1,791 24	83 58	28 86	2,393 27	4,000 00	170	176	2	5	9	36	752 24	1,089 00
Long Rapids	Alpena	370	2,000	1,710 00		30 00	2,094 93		241	142		10		57		1,710 00
Lowell	Kent	708	14,800	4,310 00	61 00	34 33	5,970 86		556	184	2	9	20	90	1,220 00	3,090 00
Lucas	Missaukee	129	1,000	675 00	45 00	30 00	935 59		77	180	1	1	9	9	405 00	270 00
Ludington	Mason	2,648	100,000	17,054 63	86 00	39 12	28,873 38	30,512 40	1,768	194	3	37	30	370	2,580 00	14,474 63
Luther	Lake	320	5,500	2,181 50	68 50	30 61	2,956 72		256	190	1	5	10	48	685 00	1,496 50
Lyons	Ionia	229	4,000	1,468 00	61 11	34 00	1,836 42		151	180	1	3	9	27	550 00	918 00
McBrides	Montcalm	151	2,000	907 50	45 00	29 58	1,241 17		175	180	1	3	9	17	405 00	503 50

McMillan	Ontonagon	289	4,500	2,815 00	90 00	44 53	6,858 30	3,500 00	240	200	4	4	10	43	900 00	1,915 00
Mackinac	Mackinac	191	2,000	980 00		42 61	1,615 65		140	159		3		23		980 00
Mackinaw City	Cheboygan	175	5,000	900 00	60 00	40 00	1,955 45	1,164 50	121	178	1	1	9	9	540 00	360 00
Mancelona	Antrim	561	9,000	3,062 00	76 00	32 69	3,811 73		453	190	1	11	10	75	760 00	2,302 00
Manchester	Washtenaw	414	25,000	3,060 00	90 00	30 86	3,652 37		327	200	1	7	10	70	900 00	2,160 00
Manistee	Manistee	4,437	100,000	26,807 50	67 00	41 15	39,577 49	24,000 00	2,229	200	5	57	50	570	3,350 00	23,457 50
Manistique	Schoolcraft	958	20,000	7,005 00	120 00	48 38	9,735 18	5,000 00	537	200	1	12	10	129	1,200 00	5,805 00
Manton	Wexford	262	10,000	2,030 00	70 00	33 25	3,133 56	4,036 00	246	200	1	4	10	40	700 00	1,330 00
Maple Rapids	Clinton	200	300	1,480 00	60 00	29 33	1,891 50		200	200	1	3	10	30	600 00	880 00
Marcellus	Cass	269	10,000	1,833 25	65 00	31 21	5,492 57	2,500 00	265	180	1	5	9	40	585 00	1,248 25
Marine City	St. Clair	1,108	16,000	4,595 00	74 68	31 02	6,555 06	2,000 00	605	200	2	10	20	100	1,493 50	3,101 50
Marion	Osceola	169	3,500	920 00	50 00	32 50	1,263 46	3,000 00	131	160	1	2	8	16	400 00	570 00
Marlette	Sanilac	279	1,000	1,850 00	75 00	36 67	2,184 00		265	200	1	3	10	30	750 00	1,100 00
Marquette	Marquette	2,829	110,000	17,916 00	83 33	51 39	31,936 16	40,000 00	1,747	195	3	30	30	300	2,500 00	15,416 00
Marshall	Calhoun	1,180	100,000	8,915 00	120 00	38 32	12,761 45		744	200	2	17	20	170	2,409 00	6,515 60
Martin	Allegan	128	5,000	1,300 00	77 78	33 34	1,703 22	3,000 00	93	180	1	2	9	18	700 00	600 00
Marysville	St. Clair	113	1,500	900 00	60 00	30 00	1,057 39		65	200	1	1	10	10	600 00	300 00
Mason	Ingham	422	20,000	4,495 00	100 00	38 83	6,105 52		422	200	1	10	10	90	1,000 00	3,495 00
Mattawan	Van Buren	78	4,000	520 00	40 00	25 00	761 28		67	160	1	1	8	8	320 00	200 00
Mayville	Tuscola	256	9,000	1,500 00	45 00	30 00	2,454 67	7,487 00	256	188	2	2	20	20	900 00	600 00
Mears	Oceana	115	1,000	576 75	34 42	29 67	647 86		83	180	1	1	9	9	309 75	267 00
Mecosta	Mecosta	224	2,000	1,100 00	50 00	36 11	1,357 13		150	180	2	4	9	18	450 00	650 00
Mellen Tp. 1	Menominee	234	3,000	990 00		110 00	1,320 93		185	180		3		9		990 00
Memphis	Macomb	236	4,000	1,550 00	65 00	30 00	2,547 83		228	200	1	3	10	30	650 00	900 00
Mendon	St. Joseph	193	12,000	2,349 12	83 94	35 94	4,077 04		172	190	3	6	13	35	1,091 25	1,257 87
Menominee	Menominee	3,563	90,000	18,394 50	170 00	46 37	59,847 35	30,000 00	2,125	196	1	36	10	360	1,700 00	16,694 50
Merrill	Saginaw	190	4,000	1,130 00	50 00	31 50	1,889 52	1,000 00	133	200	1	2	10	20	500 00	630 00
Metamora	Lapeer	146	3,500	1,160 00	60 00	28 00	1,328 47		119	195	1	2	10	20	600 00	560 60
Michigamme	Marquette	383	9,000	2,785 00	100 00	43 38	4,750 57	850 00	257	195	1	4	10	40	1,000 00	1,735 00
Middleville	Barry	251	14,000	2,060 00	38 67	30 00	2,844 52		260	193	3	4	30	30	1,160 00	900 00
Midland	Midland	687	38,000	4,600 00	85 00	34 09	7,141 39	2,170 00	674	198	1	11	10	110	850 00	3,750 00
Milan	Washtenaw	256	4,000	2,017 50	83 33	28 17	2,504 15		239	180	1	7	9	45	750 00	1,267 50
Milford	Oakland	386	16,000	2,620 00	85 00	29 50	3,980 33	5,000 00	337	196	1	6	10	60	850 00	1,770 00
Millbrook	Mecosta	102	500	510 00	40 00	25 00	542 00		72	180	1	1	9	6	360 00	150 00
Millburg	Berrien	115	2,500	600 00	60 00	30 00	763 40	100 00	89	160	1	1	6	8	360 00	240 00
Millington	Tuscola	197	6,500	1,400 00	60 00	26 67	1,924 74	1,000 00	161	200	1	3	10	30	600 00	800 00
Minden City	Sanilac	245	1,500	720 00	40 00		903 01		161	180	2		18		720 00	
Monitor Tp. 6 fl.	Bay	135	1,355	589 00		34 65	702 59		93	180		2		17		589 00
Monroe	Monroe	2,095	37,000	8,270 00	75 63	32 78	13,975 31	2,000 00	714	195	4	16	40	160	3,025 00	5,245 00
Montague	Muskegon	474	20,000	3,375 00	45 00	37 03	4,075 93		322	200	1	8	10	79	450 00	2,925 00
Morenci	Lenawee	323	9,000	2,797 70	100 00	35 14	3,364 26		220	180	1	7	9	54	900 00	1,897 70
Morley	Mecosta	192	2,000	1,100 00	50 00	30 00	1,310 47		157	200	1	2	10	20	500 00	600 00
Morrice	Shiawassee	171	6,000	1,380 00	65 00	27 67	1,747 37	500 00	137	195	1	3	10	30	650 00	730 00
Moscow	Hillsdale	53	1,000	540 00	40 00	20 00	635 92		43	180	1	1	9	9	360 00	180 00
Mt. Clemens	Macomb	1,804	50,000	9,111 50	101 38	34 85	13,813 18	2,200 00	882	200	3	21	20	203	2,027 50	7,084 00
Mt. Morris	Genesee	144	5,000	800 00	50 00	25 00	1,541 04	4,000 00	112	180	1	2	9	14	450 00	350 00
Mt. Pleasant	Isabella	920	26,000	5,850 00	105 00	36 92	10,205 98	16,000 00	637	200	1	13	10	130	1,050 00	4,800 00

TABLE XVI.—CONTINUED.

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of school property.	Amount paid for superintendence and instruction.	Average monthly wages of teachers.		Total cost of school.	Total indebtedness.	No. of children that attended school during the year.	No. of days school.	No. of teachers employed.		Aggregate No. of mos. taught by all teachers.		Total wages of teachers for the year.	
					Men.	Women.					Men.	Women.	Men.	Women.	Men.	Women.
Muir	Ionia	183	$7,200	$1,320 00	66 67	26 67	$1,771 66		130	180	1	3	9	27	$600 00	$720 00
Muskegon	Muskegon	7,882	450,000	56,346 36	101 11	42 70	164,830 70	$18,000 00	4,712	200	9	109	90	1,090	9,800 00	46,546 36
Muskegon Tp. 4	Muskegon	145	1,500	500 00		25 00	644 25		135	185		2		20		500 00
Muskegon Heights	Muskegon	207	9,000	1,650 00	90 00	28 85	9,951 61	9,000 00	157	200	1	3	10	26	900 00	750 00
Nadeau Tp. 5	Menominee	209	2,000	810 00	50 00	40 00	1,219 58	1,200 00	142	176	1	1	9	9	450 00	360 00
Napolean	Jackson	115	3,500	1,185 00	60 00	30 79	1,789 66		116	190	1	2	10	19	600 00	585 00
Nashville	Barry	318	12,000	2,574 00	75 00	28 13	3,512 22		332	200	1	7	10	62	750 00	1,824 00
National Mine	Marquette	256	3,000	2,450 00	90 50	51 67	4,404 34		166	195	1	3	10	30	900 00	1,550 00
Naubinway	Mackinac	170	2,500	950 00	55 00	40 00	1,077 90		120	175	1	1	10	10	550 00	400 00
Negannee	Marquette	1,960	50,000	11,411 25	120 00	47 43	18,386 97	12,000 00	1,153	193	2	21	20	190	2,400 00	9,011 28
Newaygo	Newaygo	410	5,000	2,640 00	80 00	36 80	3,314 94		290	200	1	5	10	50	800 00	1,840 00
New Baltimore	Macomb	300	22,000	1,154 00	59 40	28 00	1,734 77		114	194	1	2	10	20	594 00	560 00
Newberry	Luce	479	10,000	4,070 00	70 36	42 00	8,598 17	3,000 00	350	195	3	5	28	50	1,970 00	2,100 00
New Boston	Wayne	135	1,000	370 00	30 00	20 00	476 01		107	180	1	1	9	5	270 00	100 00
New Buffalo	Berrien	193	4,000	1,350 00		37 50	1,746 17		166	180		5		36		1,350 00
New Haven	Macomb	210	1,200	945 00	50 00	27 50	1,189 84		111	178	1	2	9	18	450 00	495 00
New Holland	Ottawa	203	1,000	630 00		63 00	786 48		141	200		2		10		630 00
New Hudson	Oakland	56	500	642 00	50 00	21 38	880 15	52 80	43	178	1	1	9	9	450 00	192 00
New Troy	Berrien	128	4,000	770 00	62 50	30 00	987 04		110	180	1	1	8	9	500 00	270 00
Niles	Berrien	1,231	50,000	9,942 50	106 03	40 16	13,469 86		981	186	3	20	29	171	3,075 00	6,867 50
North Adams	Hillsdale	128	10,000	1,575 00	70 00	35 00	2,043 32		45	180	1	3	9	27	630 00	945 00
North Branch	Lapeer	243	10,000	1,950 00	75 00	30 00	2,793 91	4,100 00	210	197	1	4	10	40	750 00	1,200 00
North Muskegon	Muskegon	386	14,000	2,875 00	56 25	35 00	4,385 57	6,000 00	325	180	2	5	20	50	1,125 00	1,760 00
Northport	Leelanau	236	3,000	1,117 50	49 69	34 76	1,604 75	800 00	186	180	2	3	8	21	397 50	720 00
Northville	Wayne	504	20,000	3,015 00	90 00	30 21	4,610 02		296	194	1	7	10	70	900 00	2,115 00
Norway	Dickinson	1,040	22,600	7,035 00	130 00	52 14	12,968 89	18,561 00	731	200	1	11	10	110	1,300 00	5,735 00
Nottawa	St. Joseph	101	3,000	540 00		30 00	610 20		81	176		2		18		540 00
Nunica	Ottawa	116	3,000	610 00	42 78	25 00	825 64		95	180	2	1	9	9	385 00	225 00
Oakley	Saginaw	99	2,000	630 00	45 00	25 00	708 57	126 00	69	180	1	1	9	9	405 00	225 00
Ogden Center	Lenawee	99	4,000	398 70	35 00	32 84	462 50		74	160	1	1	4	8	140 00	258 70
Okemos	Ingham	144	2,000	846 00	45 00	24 50	961 00		118	180	1	2	9	18	405 00	441 00
Olivet	Eaton	243	7,000	1,560 00	68 25	30 25	2,108 06		174	195	1	4	10	29	682 50	877 50
Onekama	Manistee	190	2,000	1,080 00	50 00	35 00	1,455 69	27 50	154	180	1	3	9	18	450 00	630 00
Onondaga	Ingham	94	800	657 00	45 00	28 00	786 29		71	178	1	1	9	9	405 00	252 00

Ontonagon	Ontonagon	621	7,500	5,530 00	100 00	46 59	11,312 96	6,000 00	424	200	1	12	10	97	1,000 00	4,520 00
Opechee	Houghton	1,084		6,786 50	81 67	41 62	10,993 99		630	190	3	13	30	103	2,450 00	4,286 50
Orion	Oakland	199	8,000	1,040 30	50 00	27 02	9,326 64	8,000 00	109	200	1	4	10	20	500 00	540 30
Ortonville	Oakland	186	3,000	928 00	55 00	28 85	1,191 69	23 41	109	200	1	2	10	13	550 00	375 00
Oscoda	Iosco	803	8,000	4,527 00	30 40	43 75	6,527 16	2,000 00	560	200	1	10	5	100	152 00	4,375 00
Osseo	Hillsdale	83	3,000	440 00	40 00	28 00	536 17		58	160	1	2	4	19	160 00	280 00
Ossineke	Alpena	131	1,400	420 00		30 00	649 06	2,216 00	112	135		2		14		420 00
Otisville	Genesee	137	2,000	890 00	33 50	22 00	1,088 90		152	195	2	1	20	10	670 00	220 00
Otsego	Allegan	507	13,000	3,277 45	105 55	33 32	5,362 37	1,000 00	503	180	1	8	9	72	949 95	2,327 50
Otter Lake	Lapeer	154	1,200	594 00	40 00	26 00	779 03		107	180	1	1	9	9	360 00	234 00
Overisel	Allegan	130	2,000	625 00	45 90	24 44	748 99		111	180	1	1	9	9	405 00	220 00
Ovid	Clinton	391	20,000	3,290 00	100 00	32 71	5,282 83	1,000 00	363	200	1	7	10	70	1,000 00	2,290 00
Owosso	Shiawassee	2,133	100,000	15,315 75	83 00	38 89	23,574 77	15,000 00	1,576	195	5	30	50	200	4,150 60	11,665 75
Oxford	Oakland	344	14,000	2,920 00	100 00	32 00	5,353 90		290	197	1	6	10	60	1,000 00	1,920 00
Palmer	Marquette	237	3,200	1,460 00	55 83	41 50	2,549 75		211	207	2	3	15	15	887 50	622 50
Palmyra	Lenawee	117	3,000	770 00	55 56	30 00	1,068 88		90	180	1	1	9	9	500 00	270 00
Palo	Ionia	101	4,000	1,087 00	55 00	26 85	1,431 68		68	200	1	2	10	20	550 00	537 00
Paris	Mecosta	81	1,200	675 00	45 00	30 00	837 00		67	180	1	1	9	9	405 00	270 00
Parma	Jackson	175	15,000	1,790 00	55 50	34 00	2,325 50		165	200	2	2	20	20	1,110 00	680 00
Paw Paw	Van Buren	338	40,000	4,130 00	120 00	36 63	5,969 40		274	199	1	10	10	80	1,200 00	2,930 00
Peck	Sanilac	163	800	566 00	40 67	20 00	690 63		111	200	2	1	9	10	366 00	200 00
Pentwater	Oceana	473	15,000	3,055 00	100 00	34 25	3,873 74		379	200	1	6	10	60	1,000 00	2,055 00
Perrinton	Gratiot	114	1,500	690 04	39 25	26 40	822 46	188 20	121	190	1	1	10	9	392 54	287 50
Perry	Shiawassee	194	4,000	1,270 00	55 00	28 80	1,911 76		183	195	1	3	10	25	550 00	720 00
Petersburg	Monroe	206	9,000	1,260 00	60 00	26 67	1,614 33		178	180	1	3	9	27	540 00	720 00
Petoskey	Emmet	996	23,000	7,207 75	120 00	40 05	12,098 14	14,000 00	776	200	1	17	10	150	1,200 00	6,007 75
Pewamo	Ionia	119	1,500	990 00	50 00	30 00	1,155 65		106	180	1	3	9	18	450 00	540 00
Pierson	Montcalm	171	2,000	675 00	45 00	30 00	768 18		110	176	1	1	9	9	405 00	270 00
Pinckney	Livingston	150	5,000	1,750 00	70 00	35 00	2,583 53	4,000 00	173	200	1	3	10	30	700 00	1,050 00
Pinconning	Bay	431	4,000	1,775 00	65 00	37 50	2,177 97	1,333 33	251	177	1	3	10	30	650 00	1,125 00
Pine Run	Genesee	68	800	315 00	30 00	15 00	329 89		47	180	1	1	9	3	270 00	45 00
Pinnebog	Huron	183	1,200	800 00	55 00	25 00	992 67		162	200	1	1	10	10	550 00	250 00
Pittsford	Hillsdale	128	3,000	1,037 25	54 10	26 12	1,328 83	1,900 00	108	190	2	2	10	19	541 00	496 25
Plainwell	Allegan	376	15,000	3,183 50	100 00	31 72	4,142 65	110 00	278	178	1	8	9	72	900 00	2,283 50
Plymouth	Wayne	400	15,000	3,193 12	100 00	36 55	4,387 81		225	176	1	6	10	60	1,000 00	3,193 12
Pontiac	Oakland	1,388	84,000	12,046 00	90 00	40 23	17,063 02		1,126	195	4	21	40	210	3,600 00	8,446 00
Portage Tp. 2	Houghton	150	8,000	1,650 00		55 00	2,846 50	3,000 00	83	185		3		30		1,650 00
Port Austin	Huron	259	4,000	1,200 00	70 00	30 00	1,664 73		143	191	1	2	10	20	700 00	600 00
Port Cresent	Huron	107	1,500	450 00	45 00		484 20		61	200	1		10		450 00	
Port Hope	Huron	234	1,500	1,087 50		36 25	1,284 00		168	190		3		30		1,087 50
Port Huron	St. Clair	6,178	180,000	22,569 00	100 00	39 77	77,984 83		3,249	200	3	59	30	492	3,000 00	19,569 00
Portland	Ionia	452	16,000	4,325 00	90 00	37 11	5,759 25		450	184	1	10	10	96	900 00	3,425 00
Potterville	Eaton	188	4,000	1,007 50	51 94	30 00	1,759 63		161	180	1	2	9	18	467 50	540 00
Powers	Menominee	247	2,800	1,000 00	69 00	40 00	1,312 11		142	198	1	1	10	10	600 00	400 00
Prattville	Hillsdale	99	1,200	372 50	46 56		414 25		78	170	1		8		372 50	
Quincy	Branch	277	8,000	3,020 00	100 00	33 00	3,738 92		260	200	1	6	10	60	1,000 00	2,020 00
Quincy Tp. 1	Houghton	476		2,600 00	100 00	40 00	3,584 34		223	195	1	4	10	40	1,000 00	1,600 00

TABLE XVI. Continued

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of property.	Amount paid for teachers' wages	Average monthly wages of teachers. Male	Female			Number employed		Amount paid for teachers' wages		Total number of teachers for the year. Male	Female
Quinnesec	Dickinson	144												
Ravenna	Muskegon	125												
Reading	Hillsdale	260												
Reed City	Osceola	112												
Reese	Tuscola	280												
Republic	Marquette	779												
Richland	Kalamazoo	123												
Richmond	Macomb	213												
Ridgeway	Lenawee	70												
Riverside Tp. 1	Missaukee	191												
Rochester	Oakland	280												
Rockford	Kent	231												
Rockland	Ontonagon	175												
Rogers City	Presque Isle	251												
Romeo	Macomb	317												
Roscommon	Roscommon	252												
Rosina Tp. 2	Ionia	72												
Royal Oak	Oakland	102												
Saginaw E. S.	Saginaw	1,302												
Saginaw W. S.	Saginaw	1,357												
St. Charles	Saginaw	388												
St. Clair	St. Clair	720												
St. Ignace	Mackinac	111												
St. Johns	Clinton	1												
St. Joseph	St. Joseph	302												
St. Louis	Gratiot	1												
[illegible]	Van Buren	1												
[illegible]	Van Buren	1												
[illegible]	[illegible]	66												
[illegible]	[illegible]	1												
[illegible]	[illegible]	1												
[illegible]	[illegible]	1												
[illegible]	[illegible]	1												

TABLE XVI.—CONTINUED.

Districts.	Counties.	No. of children between 5 and 20 years.	Estimated valuation of school property.	Amount paid for superintendence and instruction.	Average monthly wages of teachers.		Total cost of school.	Total indebtedness.	No. of children that attended school during the year.	No. of days school.	No. of teachers employed.		Aggregate No. of mos. taught by all teachers.		Total wages of teachers for the year.	
					Men.	Women.					Men.	Women.	Men.	Women.	Men.	Women.
Three Oaks	Berrien	375	$5,000	$1,755 00	$70 00	$31 25	$2,457 62		275	180	1	4	9	36	$630 00	$1,125 00
Three Rivers	St. Joseph	811	25,000	8,764 00	99 57	34 34	14,872 95	$8,575 32	772	195	5	19	28	174	2,788 00	5,976 00
Torch Lake Tp. 6	Houghton	168	4,350	1,275 00	70 00	37 94	2,053 70	3,500 00	125	180	1	4	9	17	630 00	645 00
Traverse City	Gd. Traverse	1,674	70,000	12,083 86	150 00	39 03	20,966 42	21,000 00	1,216	180	2	27	18	243	2,600 00	9,483 86
Trenton	Wayne	343	3,000	1,122 50	52 25	30 00	1,537 85		207	200	1	2	10	20	522 50	600 00
Tuscola	Tuscola	142	800	660 00	55 56	20 00	905 87		107	180	1	1	9	8	500 00	160 00
Tustin	Osceola	124	1,000	850 00	60 00	25 00	1,034 59		85	200	1	2	10	10	600 00	250 00
Ubley	Huron	150	2,000	560 00	40 00	26 67	737 74	800 00	128	180	1	1	8	9	320 00	240 00
Union City	Branch	354	25,000	4,205 00	64 55	34 81	6,222 52		321	195	3	8	22	80	1,420 00	2,785 00
Unionville	Tuscola	167	2,500	1,080 00	42 50	23 00	1,363 99		149	195	2	1	20	10	850 00	230 00
Utica	Macomb	380	12,000	2,260 00	80 00	29 20	3,099 10		269	200	1	5	10	50	800 00	1,460 00
Vandalia	Cass	173	5,000	1,548 00	55 00	31 00	2,883 07	900 00	155	170	2	2	18	18	990 00	558 00
Vanderbilt	Otsego	137	2,500	954 00	45 00	30 50	1,810 76		114	180	1	2	9	18	405 00	549 00
Vassar	Tuscola	600	20,000	3,913 00	110 00	31 26	5,229 78		543	200	1	9	10	90	1,100 00	2,813 00
Vermontville	Eaton	220	10,000	1,790 00	65 00	30 00	2,433 42		276	180	1	4	10	38	650 00	1,140 00
Vernon	Shiawassee	176	3,000	1,600 00	70 00	30 00	2,404 50		172	200	1	3	10	30	700 00	900 00
Vicksburg	Kalamazoo	248	7,000	2,504 00	90 00	33 22	3,213 73		216	180	1	6	9	51	810 00	1,694 00
Vriesland	Ottawa	151	2,500	624 00	40 00	22 40	769 22		108	200	1	1	10	10	400 00	224 00
Vulcan	Dickinson	331	4,000	2,260 00	75 00	37 75	3,902 43		188	197	1	4	10	40	750 00	1,510 00
Wacousta	Clinton	91	1,200	612 00	40 00	28 00	711 97		80	180	1	1	9	9	360 00	252 00
Wakefield	Gogebic	182	4,000	1,252 50	60 00	50 89	2,670 06		129	180	1	2	9	14	540 00	712 50
Waldron	Hillsdale	156	3,000	640 00	50 00	30 00	1,543 89	426 00	124	160	1	1	8	8	400 00	240 00
Walker Tp. 11	Kent	148	3,200	515 00	38 75	25 63	640 57		88	160	1	2	8	8	310 00	205 00
Warren	Macomb	136	2,000	655 00	52 78	20 00	807 39		87	165	1	1	9	9	475 00	180 00
Washington	Macomb	102	1,500	780 00	48 00	25 00	842 01		75	200	1	1	10	10	480 00	250 00
Washington Tp. 1	Sanilac	86	350	300 00		30 00	331 61		56	200		1		10		300 00
Waterford	Oakland	101	4,000	755 00	50 00	28 33	942 67		87	196	1	2	10	9	500 00	255 00
Watervliet	Berrien	219	6,000	1,340 00	60 00	29 63	1,526 26	3,535 00	188	180	1	3	9	27	540 00	800 00
Watrousville	Tuscola	82	2,500	627 50	47 50	27 50	831 85	800 00	84	178	1	1	8	9	380 00	247 50
Wayland	Allegan	132	5,000	1,305 00	47 50	25 00	1,717 13		103	180	2	2	18	18	855 00	450 00
Wayne	Wayne	369	20,000	2,600 00	90 00	28 32	3,493 66		256	200	1	6	10	60	900 00	1,700 00
Webberville	Ingham	177	2,000	999 00	55 56	27 72	1,203 27		138	180	1	3	9	18	500 00	499 00
Weldon Tp. 4 fl	Benzie	182	2,050	828 00		46 00	1,223 91	2,725 00	140	180		2		18		828 00
West Bay City	Bay	4,577	150,000	27,987 74	85 83	43 09	44,269 52	77,000 00	2,373	192	6	53	60	530	5,150 00	22,837 74
West Branch	Ogemaw	432	7,500	2,457 50	90 00	40 99	3,667 78	6,000 00	390	190	1	4	10	38	900 00	1,557 50

Wheeler	Gratiot	99	1,200	520 00		32 50	628 48		80	160		2		16		520 00
White Cloud	Newaygo	190	5,000	1,470 00	55 00	31 72	2,176 39		186	200	1	3	10	29	530 00	920 00
Whitehall	Muskegon	608	80,000	4,677 50	100 00	36 05	5,958 15		529	194	1	11	10	102	1,000 00	3,677 50
White Pigeon	St. Joseph	234	16,000	2,800 00	120 00	32 00	4,105 87		232	200	1	5	10	50	1,200 00	1,600 00
Williamston	Ingham	450	20,000	3,200 00	60 00	33 33	4,507 47		455	200	2	6	20	60	1,200 00	2,000 00
Wolverine	Cheboygan	194	3,000	1,150 00	50 00	39 22	2,312 98	1,200 00	115	175	1	2	9	18	450 00	700 00
Woodland	Barry	122	3,500	765 00	50 00	35 00	1,010 81		102	180	1	1	9	9	450 00	315 00
Woodville	Newaygo	66	600	540 00	45 00	22 50	650 07		24	180	3	2	9	6	405 00	135 00
Worth	Arenac	169	2,000	589 50		32 75	719 40	600 00	102	180		2		18		589 50
Worth Tp. 12 fl	Sanilac	85	1,000	320 00	40 00		362 75		72	160	1		8		320 00	
Wyandotte	Wayne	1,594	40,000	5,062 50	122 31	35 80	8,511 04		760	198	2	9	13	97	1,590 00	3,472 50
Wyoming Tp. 9	Kent	177	8,000	1,160 00	50 59	30 00	1,862 98	5,000 00	110	200	2	1	17	10	880 00	300 00
Yale	St. Clair	362	11,000	1,940 00	75 00	23 80	3,246 93	5,000 00	276	196	1	6	10	50	750 00	1,190 60
York	Washtenaw	106	4,500	800 00	50 00	30 00	1,026 33		92	200	1	1	10	10	500 00	300 00
Ypsilanti	Washtenaw	1,607	55,000	10,661 25	91 25	41 24	17,406 99		1,063	190	4	17	40	170	3,650 00	7,011 25
Zeeland	Ottawa	490	8,000	1,990 00	65 00	26 80	2,751 56		386	196	1	5	10	50	650 00	1,340 00
Zilwaukee Tp. 1	Saginaw	423	5,000	2,190 00	60 00	33 00	2,637 62		384	200	2	3	20	30	1,200 00	990 00
Zilwaukee Tp. 2	Saginaw	154	800	610 00		38 13	701 50		114	197		2		16		610 00
Zutphen	Ottawa	159	750	540 00	34 00	25 00	654 12		109	196	1	1	10	8	340 00	200 00
Lacota	Van Buren	85	2,500	520 00	40 00	25 00	1,112 74	1,000 00	77	160	1	1	8	8	320 00	200 00
Au Gres	Arenac	125	800	750 00	50 00	27 50	952 84	58 98	96	192	1	1	9	10	475 00	275 00
Berlamont	Van Buren	100	2,000	282 00		25 78	813 25	500 00	63	180		1		9		282 00
Detour	Chippewa	236	1,200	656 25		36 46	861 70	1,000 00	106	200		2		18		656 25
Dorr	Allegan	111	1,200	300 00		33 33	341 78		67	180		2		9		300 00
Gowen	Montcalm	98	2,500	412 05		25 75	467 83		74	160		2		16		412 05
Elkton	Huron	185	2,000	510 00	40 00	22 00	1,361 00	775 00	153	200	1	1	10	5	400 00	110 00
Lee's Corners	Midland	122	1,200	489 50	37 50	27 45	599 81		116	180	1	3	5	11	187 50	302 00
Manistee Tp. 3	Manistee	145	2,000	500 00	50 00		581 16		60	198	1		10		500 00	
Riga	Lenawee	194	6,000	382 00	35 00	23 00	672 97		118	180	1	1	5	9	175 00	207 00
Riverdale	Gratiot	104	1,000	420 00		28 50	443 01	31 04	78	140		2		14		420 00
South Boardman	Kalkaska	131	3,000	685 00	40 00	36 11	1,204 53		90	180	1	1	9	9	360 00	325 00
Sunfield	Eaton	155	4,000	348 25	41 65	22 50	4,351 68	3,000 00	105	150	1	1	5	6	208 25	135 00
Washington Tp. 4	Sanilac	123	1,000	325 00	32 50		417 63		100	200	1		10		325 00	
Wixom	Oakland	61	1,600	535 00	43 89	20 00	710 11	325 00	57	160	1	1	9	7	395 00	140 00
Williamsburg	Gd. Traverse	107	1,200	720 00	61 67	17 78	949 80	300 00	86	180	1	1	9	9	540 00	180 00
Central Lake	Antrim	163	1,200	478 50	40 00	23 81	1,696 26	1,000 00	103	150	1	1	7	8	300 00	178 50

TABLE XVII.*—*Miscellaneous statistics of city schools as*

Line number.	Cities having a population over 4,000, census 1890.	School Population from Inspectors' Report.	Enrollment.				Average No. belonging.				Average daily attendance.				No. of	
			High School Department.	Grammar Department.	Primary Department.	Whole School.	High School Department.	Grammar Department.	Primary Department.	Whole School.	High School Department.	Grammar Department.	Primary Department.	Whole School.	H. S. Dept.	
															M.	F.
1	Adrian	2,616	209	426	948	1,583	172	339	625	1,136	165	317	580	1,062	2.6	5.
2	Alpena	4,125	144	433	1,708	2,285	122	316	870	1,308	115	293	793	1,201	3.	3.
3	Ann Arbor	3,073	763	569	1,078	2,410	586	463	861	1,910	561	449	822	1,832	8.	9.
4	Au Sable	983	37	100	417	554	28	81	365	474	20	74	288	382	2.	----
5	Battle Creek	3,778	204	911	2,238	3,353	166	627	1,327	2,120	162	596	1,256	2,014	2.	5.
6	Bay City	10,023	450	1,290	3,817	5,557	281	791	2,039	3,111	274	774	1,947	2,995	4.	7.
7	Big Rapids	1,490	103	314	785	1,202	68	211	554	833	66	191	523	780	1.	3.
8	Cadillac	1,467	48	337	794	1,179	39	247	557	843	37	226	524	787	.5	2.
9	Calumet	4,876	67	358	2,062	2,482	55	259	1,527	1,841	54	236	1,319	1,609	----	----
10	Cheboygan	2,224	89	260	966	1,265	27	160	521	708	26	148	486	660	.5	1.
11	Coldwater	1,345	159	393	628	1,180	112	316	448	876	108	305	428	841	2.5	2.
12	Detroit	78,167	1,350	11,311	31,389	46,050	1017	5,747	15,529	22,293	848	5,465	14,457	20,770	9.	28.
13	Escanaba	2,214	55	120	866	1,041	----	----	----	----	----	----	----	----	1.	1.
14	Flint	2,677	441	950	1,389	2,780	275	510	805	1,590	261	490	750	1,501	----	8.
15	Grand Haven	1,831	71	397	914	1,382	62	315	663	1,040	60	293	629	982	1.	2.
16	Grand Rapids	28,482	1,215	4,379	12,385	17,979	847	2,740	7,011	10,598	811	2,617	6,672	10,100	10.8	18.4
17	Ionia	1,875	177	371	865	1,413	128	284	497	859	126	280	475	831	1.	5.
18	Iron Mount'in	2,301	49	300	2,069	2,418	41	188	1,053	1,282	39	178	977	1,194	1.4	2.1
19	Ironwood	2,163	60	400	910	1,370	45	250	810	1,105	40	210	635	885	----	----
20	Ishpeming	3,990	79	254	1,976	2,309	70	224	1,212	1,506	67	209	1,119	1,395	----	4.
21	Jackson No. 1	2,934	269	554	1,424	2,247	208	450	1,109	1,767	260	412	1,060	1,672	3.2	4.2
22	Jackson No. 17	3,000	143	607	1,070	1,820	112	475	825	1,412	102	447	750	1,299	----	4.
23	Kalamazoo	5,971	269	1,279	2,554	4,102	234	882	1,764	2,880	230	773	1,546	2,549	1.	9.
24	Lansing	4,960	335	941	1,901	3,177	281	718	1,235	2,234	274	688	1,187	2,149	4.	6.
25	Ludington	2,648	122	414	1,440	1,976	108	321	981	1,410	104	306	938	1,348	2.	3.5
26	Manistee	4,437	177	969	1,773	2,919	122	565	1,091	1,778	116	541	1,047	1,704	4.	3.
27	Marquette	2,829	87	427	1,233	1,747	76	285	801	1,162	72	285	750	1,107	1.	3.2
28	Menominee	3,563	82	437	1,606	2,125	74	351	1,087	1,512	67	280	1,019	1,366	1.	3.
29	Monroe	2,095	120	238	356	714	93	174	224	491	89	168	203	455	3.	3.
30	Mt. Clemens	1,804	94	236	737	1,064	81	155	429	665	77	150	414	641	----	----
31	Muskegon	7,882	226	1,272	3,598	5,096	179	1,026	2,576	3,781	171	975	2,419	3,565	3.4	4.
32	Negaunee	1,980	99	367	891	1,357	87	229	545	861	84	217	516	817	1.5	2.
33	Niles	1,221	125	296	592	1,013	105	243	435	783	102	231	414	747	2.	2.
34	Owosso	2,183	167	556	1,308	2,061	135	369	928	1,432	128	363	741	1,232	3.	3.
35	Port Huron	6,178	176	1,176	2,257	3,609	155	627	1,154	1,936	150	587	1,051	1,788	2.	5.
36	Pontiac	1,388	151	331	635	1,167	127	295	498	920	124	286	466	876	2.4	3.
37	?Saginaw, E.S.	8,498	306	1,478	3,922	5,706	264	1,220	2,614	4,098	257	1,143	2,460	3,860	6.	7.
38	Saginaw, W.S.	6,207	209	671	2,694	3,574	150	481	2,287	2,918	147	488	1,936	2,571	1.	7.
39	S'lt Ste. Marie	1,753	94	492	900	1,486	58	251	471	780	54	230	422	706	.2	2.5
40	Traverse City	1,674	156	384	796	1,336	110	304	641	1,055	106	263	580	949	----	4.
41	West Bay City	4,577	----	----	----	----	----	----	----	----	----	----	----	----	----	----
42	Ypsilanti	1,607	86	279	698	1,063	63	227	401	691	58	206	355	619	3.	2.

? Report of kindergarten included in primary department.
* Where a blank occurs in this table the item was not reported.

reported by superintendents for the school year 1892–3.

Regular Teachers employed.						Portion of Superintendent's time devoted to supervision.	No. Special Teachers.	Av. No. pupils to each teacher.				No. of Non-resident pupils.				Average age of class.			No. studying.				Does school give special instruction in			Has school Kindergarten below Prim. grade?	Portion of time in 1st Prim. devoted to Kindergarten work.	No. of U. S. Flags.	Line number.
Gram. Dept.		Primary Dept.		Whole School.				H. S. Dept.	Gram. Dept.	Prim. Dept.	Whole school.	H. S. Dept.	Gram. Dept.	Prim. Dept.	Whole school.	Graduated.	Promoted to High School.	Promoted to Gram. Dept.	Latin.	Greek.	French.	German.	Vocal music?	Drawing?	Penmanship.				
M.	F.	M.	F.	M.	F.																								
.3	11.	.1	15.	3	31	All	.5	34	31	42	37	26	11	6	43	18.	15.	11.5	53	..	7	29	yes	yes	yes	no	1-2	----	1
----	8.	----	20.	3	31	All	----	24	39	44	40	...	...	...	...	19.	14.5	10.	38	...	...	38	no	no	no	no	------	2	2
----	13.	----	21.	8	43	4-5	3	37	34	41	38	356	48	41	445	18.5	14.7	10.4	330	73	46	150	yes	yes	no	no	1-15	7	3
----	2.	----	6.	2	8	1-2	----	28	40	61	53	4	1	3	8	15.	11.5	9.	8	...	...	...	no	no	no	no	1-3	2	4
----	17.	----	35.	2	57	All	2.	27	36	38	37	31	20	5	56	19.	16.2	12.2	108	5	9	42	yes	yes	no	no	1-8	3	5
1.	26.	1.	53.	6	86	All	3.	25	30	38	32	29	5	3	37	18.	15.	11.2	165	12	17	83	yes	yes	yes	no	1-3	10	6
----	6.	----	14.	1	23	3-4	1.	23	33	41	38	...	8	12	20	17.	...	...	26	...	...	35	yes	yes	yes	no	1-2	4	7
.3	6.	.2	14.	1	22	1-2	----	15	41	39	35	2	4	3	9	18.	15.	10.5	7	...	...	10	no	no	no	no	------	1	8
----	------	----	------	4	42	4-5	2.	...	...	...	40	13	...	2	15	17.	14.5	11.5	6	...	13	15	yes	no	no	no	1-5	5	9
4.	1.	.5	12.	6	14	1-2	----	18	32	43	37	...	...	...	...	17.	14.	11.	----	...	...	...	no	no	no	no	------	7	10
.3	8.5	.2	11.5	3	22	1-2	3.	25	37	39	35	...	...	...	...	18.2	14.4	10.6	51	4	...	24	yes	yes	no	no	1-2	3	11
12.	189.	5.	354.	26	571	All	7.	27	29	43	37	24	...	...	160	...	...	...	480	55	100	140	yes	yes	yes	no	------	56	12
----	3.	----	10.	1	14	1-7	----	...	...	...	...	...	...	...	...	16.	13.	10.	7	...	...	...	no	no	no	no	------	4	13
----	4.	----	28.	2	40	All	1.	29	43	40	39	48	3	2	53	18.7	...	...	90	2	12	38	yes	yes	no	yes	All	7	14
----	8.	1.	15.	2	25	5-6	3.	31	40	42	40	6	3	10	19	18.7	15.	10.5	9	...	...	12	yes	yes	yes	yes	------	1	15
1.4	82.8	1.	192.8	13	294	All	4.	30	33	36	35	68	25	28	121	18.3	14.5	11.2	453	31	77	202	yes	yes	yes	yes	1-6	37	16
----	7.	----	12.	1	24	3-4	1.	26	38	41	30	51	59	43	153	18.	-----	-----	47	5	12	19	yes	yes	yes	yes	1-3	4	17
.3	5.2	.3	21.7	2	29	5-8	1.	13	38	50	42	...	2	...	2	...	...	...	7	...	...	6	yes	no	no	no	1-10	4	18
----	------	----	------	----	----	3-4	1.	15	42	76	52	...	...	...	...	16.	12.	8.	18	...	...	10	yes	yes	yes	yes	------	6	19
----	4.	----	22.	1	30	All	1.	18	56	55	46	...	...	...	...	17.5	13.	9.	25	..	20	8	yes	yes	yes	no	1-2	4	20
1.4	13.4	.4	24.4	5	42	All	2.	29	34	46	37	34	7	5	46	19.1	14.5	10.5	75	5	12	45	yes	yes	no	yes	1-4	3	21
----	12.	----	15.	1	31	All	2.	28	39	43	46	5	4	5	14	18.	14.	9.	35	...	...	25	yes	yes	yes	no	1-5	4	22
----	24.	----	42.	2	72	All	1.	26	42	42	40	26	...	...	52	19.	-----	-----	----	...	...	...	yes	no	no	no	------	9	23
----	16.	----	30.	4	52	All	1.	31	45	41	39	...	...	...	122	18.8	14.	9.	135	6	...	47	yes	yes	yes	no	1-4	7	24
1.	9.5	----	26.	4	39	All	1.	31	31	38	33	7	14	..	21	18.5	14.5	10.5	58	..	...	41	yes	no	no	no	1-5	5	25
1.	18.	----	32.	5	53	All	2.	17	29	34	30	4	3	..	7	19.	15.	10.	109	...	5	35	yes	yes	yes	no	1-10	6	26
2.	7.4	----	18.4	3	29	5-6	1.	24	31	44	37	...	3	..	3	17.7	13.4	8.3	41	..	5	14	yes	no	no	no	------	5	27
----	8.	----	24.	1	35	All	1.	25	44	45	42	...	...	...	...	17.6	-----	-----	52	...	...	13	no	yes	yes	yes	All	6	28
----	6.5	----	6.5	4	16	4-5	----	15	27	34	26	28	19	4	51	18.6	15.	10.8	81	8	...	168	no	yes	yes	no	------	3	29
----	------	----	------	2	18	2-3	3.	16	51	35	33	11	9	3	23	18.	14.5	11.	30	..	3	12	yes	yes	yes	yes	------	2	30
2.3	28.	.3	68.	6	100	All	5.	25	40	37	35	8	9	9	26	...	...	...	104	1	17	20	yes	yes	yes	yes	------	5	31
.3	5.	.2	12.	2	19	1-2	----	29	46	45	43	...	...	...	...	18.	14.	10.	13	..	7	17	no	no	no	yes	1-6	1	32
1.	4.	----	12.	3	18	5-6	1.	35	48	39	41	27	27	7	61	18.5	-----	-----	31	...	...	27	yes	yes	yes	yes	------	1	33
2.	10.	----	17.	5	30	All	----	27	37	54	41	22	21	..	43	18.5	14.5	11.	----	...	...	...	no	no	no	no	------	4	34
----	17.	----	28.	2	50	All	----	26	37	41	38	12	5	1	18	19.	14.8	10.8	70	5	5	28	no	no	no	no	------	10	35
1.3	7.	.3	10.	4	20	2-3	1.	26	36	49	38	50	10	..	60	18.5	15.	11.	48	8	8	20	yes	no	yes	no	1-5	6	36
5.	29.	1.	81.	12	117	All	3.	22	36	35	31	...	...	...	...	18.4	-----	-----	182	12	...	107	yes	yes	yes	yes	------	12	37
2.	17.	2.	45.	5	69	All	2.	18	25	48	40	35	5	...	40	17.8	-----	-----	146	9	27	70	yes	yes	no	no	------	10	38
.2	6.	.6	10.	1	19	3-4	.5	20	41	47	42	7	22	19	48	-----	14.	10.	13	..	...	8	yes	no	no	no	1-2	1	39
----	7.	----	13.	2	24	3-4	2.	27	43	49	37	65	30	12	107	19.	-----	-----	20	..	...	12	no	yes	yes	yes	1-2	1	40
----	------	----	------	----	----	------	----	...	...	...	...	...	...	...	...	...	-----	-----	----	...	...	...	...	...	...	...	------	----	41
----	6.	1.	10.	4	18	3-5	1.	18	38	37	31	6	8	..	14	18.6	-----	-----	25	2	...	15	yes	yes	no	no	1-6	4	42

TABLE XVII.—

Line number.	Cities having a population between 1,000 and 4,000, census of 1890.	School Population from Inspectors' Reports.	Enrollment.				Average number belonging.				Average daily attendance.				Number of Regular Teachers					
			High School Department.	Grammar Department.	Primary Department.	Whole School.	High School Department.	Grammar Department.	Primary Department.	Whole School.	High School Department.	Grammar Department.	Primary Department.	Whole School.	H. S. Dept.		Gram. Dept.		Primary Dept.	
															M.	F.	M.	F.	M.	F.
1	Albion	1,386	255	374	576	1,205	163	236	410	809	159	223	394	776	2.	5.	....	5.	....	10.
2	Algonac	409	40	88	123	251	86	73	100	209	....	....	....	....	1.	1.	....	2.	....	2.
3	Allegan	753	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4	Alma	530	69	145	291	505	47	106	171	324	45	100	157	302	.6	1.	.2	3.5	.2	4.5
5	Atlantic Mine	420	1	85	213	299	....	64	126	190	....	57	105	176	....	....	1.	1.	....	3.
6	Belding	843	49	166	444	659	41	114	286	441	38	103	261	402	1.	2.	1.	2.	....	6.
7	Benton Harbor	1,417	....	....	....	....	....	....	....	....	....	....	....	....	1.	4.	....	8.	....	13.
8	Bessemer	569	34	117	444	595	33	108	403	539	32	95	404	531	1.	.5	....	2.5	....	5.
9	Blissfield	227	108	39	51	198	82	32	42	156	79	31	41	151	1.	1.	....	1.	....	1.
10	Buchanan	529	102	162	265	529	80	141	192	413	76	135	175	386	1.	2.	....	4.	....	4.
11	Caro	604	101	202	251	554	79	125	129	383	74	123	118	315	1.	2.	....	3.	....	4.
12	Carrollton No. 1	461	47	101	202	350	32	84	140	256	35	73	109	217	1.	....	....	2.	....	2.
13	Cassopolis	392	68	112	130	310	54	104	121	279	52	98	115	265	1.	2.	....	3.	....	3.
14	Cedar Springs	352	44	84	202	330	35	68	151	254	33	65	135	233	1.	1.	....	2.	....	3.
15	Champion	673	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
16	Charlevoix	453	35	91	296	412	31	78	185	289	30	64	175	269	1.	....	....	2.	....	5.
17	Charlotte	1,005	142	284	643	1,069	117	241	435	793	114	234	415	753	1.	4.	....	6.	....	12.
18	Chelsea	428	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
19	Chesaning	351	117	100	136	343	74	86	98	258	71	77	92	240	1.	2.	....	2.5	....	2.5
20	Clare	697	32	125	224	381	31	121	207	359	31	120	203	354	1.	....	....	2.	....	4.
21	Constantine	297	90	74	110	274	72	67	94	233	70	59	78	207	1.	3.	....	2.	....	2.
22	Corunna	417	64	157	180	401	52	122	120	294	45	111	109	265	.8	2.	.1	4.	.1	3.
23	Decatur	368	120	78	186	384	97	75	177	349	....	71	163	....	3.	1.	1.5	....	2.5	....
24	Dowagiac	947	88	184	476	748	73	153	378	604	69	145	319	533	2.	1.	2.	3.	....	7.
25	Dundee	402	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
26	East Lake	541	81	87	243	413	70	75	210	350	31	83	115	179	1.	....	....	1.	....	2.
27	East Tawas	730	30	127	394	551	25	104	259	388	20	92	243	355	.6	1.	.2	2.	.2	5.
28	Eaton Rapids	614	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
29	Elk Rapids	473	46	90	288	424	39	71	214	324	36	67	210	313	1.	1.	....	2.	....	5.
30	Essexville	633	....	84	84	168	....	70	72	142	....	64	70	134	....	....	1.	....	....	3.
31	Evart	488	60	127	260	447	55	120	250	425	50	116	225	391	1.	1.	....	2.	....	5.
32	Fenton	549	68	180	267	515	56	143	175	374	55	131	161	348	2.	1.	....	4.	....	6.
33	Fort Gratiot *	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
34	Fowlerville	339	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
35	Ford River	194	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
36	Frankfort	528	69	124	305	498	42	71	168	281	38	65	156	259	1.	1.	....	2.	....	5.
37	Fremont	621	63	113	240	416	51	91	165	307	49	82	143	274	.6	1.	.2	2.	.2	3.
38	Gladstone	482	49	52	267	368	35	38	159	232	27	34	134	195	1.	....	....	1.	....	4.
39	Grand Ledge No. 9	305	59	108	136	303	33	75	115	223	31	70	106	207	1.	1.	....	2.	....	2.
40	Greenville	862	127	227	419	773	99	184	283	566	93	176	274	543	1.	4.5	1.	4.5	....	7.
41	Hancock	1,251	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
42	Harbor Springs	352	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
43	Hartford	337	56	60	196	312	....	....	....	....	96	94	94	284	1.	1.	....	1.	....	3.
44	Hastings	925	137	215	530	882	123	182	340	645	122	179	327	628	2.	2.	....	4.	....	10.
45	Hillsdale	1,182	128	313	506	947	110	249	327	686	109	242	312	663	2.2	1.	.4	6.	.4	8.
46	Holland	1,815	78	322	1082	1,482	66	208	705	999	62	240	657	934	1.4	1.	.2	5.	.2	15.
47	Holly	409	63	137	171	371	54	101	120	275	49	97	103	279	....	....	....	....	....	....
48	Homer	312	56	87	156	299	48	80	80	208	41	74	85	200	....	3.	....	2.	....	2.
49	Houghton No. 1	1,235	41	120	350	511	38	95	220	353	37	92	209	338	2.	1.	....	4.	1.	7.
50	Howard City	379	57	131	153	341	50	102	118	270	46	92	106	244	....	....	....	....	....	....
51	Howell	616	145	280	325	750	122	220	260	602	124	223	262	609	1.5	3.	.3	4.	.2	6.
52	Hudson	376	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
53	Imlay City	481	77	272	292	641	48	122	136	306	44	111	123	278	.6	1.	.2	3.	.2	3.
54	Iron River	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
55	Ithaca	600	110	188	314	582	78	128	244	460	70	127	223	420	.6	1.5	2.2	1.5	.2	5.
56	Jonesville	405	66	107	172	345	52	82	104	238	48	81	99	228	1.	1.	....	2.	....	2.
57	Kalkaska	316	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
58	Lake Linden	1,939	84	216	647	947	66	163	474	703	66	162	456	684	....	2.	....	5.	....	13.
59	Lakeview	340	54	104	174	332	35	79	151	265	....	....	....	....	1.	....	....	2.	....	2.
60	Lapeer	729	131	227	333	691	109	195	215	519	101	166	179	436	1.4	4.	.3	4.	.3	9.

* Now included in Port Huron.

CONTINUED.

employ'd				No. of pupils to each teacher.				No. of Non-resident pupils.				Average age of class.			Number studying.				Does school give special instruction in			Has school kindergarten below Primary grade?	Portion of time in 1st Primary devoted to kindergarten work.	No. of U. S. flags.	Line number.
Whole School.		Portion of Superintendent's time given to supervision.	Number of Special Teachers.	H. S. Dept.	Gram. Dept.	Prim. Dept.	Whole School.	H. S. Dept.	Gram. Dept.	Prim. Dept.	Whole School.	Graduated.	Promoted to High School.	Promoted to Gram. Dept.	Latin.	Greek.	French.	German.	Vocal music?	Drawing?	Penmanship.				
M.	F.																								
2	20	1-2	2	35	46	41	40	45	3	..	48	17.5	15.	10.5	40	..	..	35	yes	yes	.....	no	.....	5	1
1	5	All	1	50	75	75	35	6	..	..	..	16.	.....	.....	..	..	..	..	yes	yes	yes	yes	1-3	1	2
1	9	1-3	1	28	30	38	33	26	8	5	39	.....	15.	10.	19	..	..	6	yes	no	yes	yes	1-3	1	4
1	4	1-15	....	..	32	42	38	..	4	11	15	.....	14.	9.	..	..	..	..	no	no	no	no	.....	1	5
2	10	1-2	1	31	31	47	40	25	20	1	46	.....	15.	10.	7	..	..	11	no	no	yes	no	1-4	1	6
1	25	....	1	..	..	..	..	..	..	..	..	.....	.....	.....	..	..	..	..	yes	yes	yes	no	.....	3	7
1	8	1-2	....	21	51	80	59	..	3	2	5	18.5	14.	10.	..	..	..	..	no	no	yes	no	1-2	..	8
1	3	1-6	....	41	32	42	39	45	..	..	45	19.	13.	8.	26	..	..	..	yes	yes	yes	no	1-4	1	9
1	10	1-5	....	29	35	48	37	25	10	1	36	19.	15.	10.	25	..	..	9	no	yes	yes	no	1-3	2	10
1	9	1-8	....	26	41	32	33	..	..	..	..	17.	12.5	8.2	3	..	..	..	yes	no	yes	yes	1-3	..	11
1	4	1-8	....	32	42	70	51	10	..	..	10	15.	12.	7.	..	..	..	..	yes	no	yes	no	.....	1	12
1	8	1-3	....	18	34	40	31	4	8	20	32	18.	14.	9.	6	..	..	4	yes	yes	yes	yes	1-3	1	13
1	6	1-12	....	18	34	50	36	19	7	..	26	18.	15.	11.	7	..	..	..	no	no	no	no	1-6	1	14
1	7	1-6	....	31	37	36	36	4	2	2	8	17.	14.6	10.5	6	..	..	..	no	no	yes	no	1-3	1	16
2	22	All	1	23	40	37	35	41	29	12	82	18.	14.	11.	50	9	1	16	yes	yes	yes	no	1-5	2	17
																									18
1	7	1-12	....	25	34	39	32	26	..	..	26	18.	14.	10.	..	..	..	13	yes	no	no	no	1-4	1	19
1	6	1-9	....	32	62	56	51	8	..	..	..	19.1	17.1	12.8	3	..	..	20	.....	.....	.....	yes	1-3	1	20
1	7	1-4	....	24	28	39	29	34	2	4	40	18.	.....	.....	12	..	..	20	no	no	no	yes	1-4	1	21
1	9	3-7	....	20	30	40	33	22	19	3	44	17.	16.	10.5	10	..	..	4	no	no	no	no	1-3	1	22
7	1	1-5	6	32	50	71	50	56	3	5	64	19.	.....	.....	24	..	..	..	no	no	no	no	1-4	1	23
4	11	1-2	....	21	30	45	40	18	6	..	24	18.	.....	.....	30	..	..	12	no	yes	yes	no	.....	..	24
																								..	25
1	3	1-6	....	70	75	105	87	..	..	..	..	.....	13.	.....	..	..	..	..	yes	no	yes	no	1-5	1	26
1	8	2-3	....	25	52	59	49	..	..	..	..	18.	12.5	8.9	..	..	..	..	yes	yes	yes	no	1-3	1	27
																								..	28
1	8	1-8	....	19	35	43	36	5	1	1	7	19.	.....	.....	3	..	..	..	no	no	no	no	1-3	3	29
1	3	1-15	....	..	32	36	34	..	..	..	1	.....	15.	.....	..	..	..	..	no	no	no	no	1-6	1	30
1	8	1-3	....	28	60	63	47	10	6	4	20	19.	14.	.....	..	..	..	..	yes	yes	yes	yes	1-4	1	31
2	11	1-3	....	17	36	29	29	9	7	3	19	17.	13.	9.	25	..	..	12	no	yes	yes	no	1-6	1	32
																								..	33
																								..	34
																								..	35
1	8	1-6	....	19	36	34	34	2	..	..	2	17.	14.	11.	..	..	..	..	no	no	no	no	1-6	1	36
1	6	1-3	....	34	45	55	44	9	7	2	18	16.	12.	8.5	..	..	..	..	no	no	no	yes	1-3	1	37
1	5	1-8	....	35	38	39	39	2	..	..	2	17.	13.	10.	..	..	..	..	no	no	no	no	1-4	1	38
1	5	....	....	33	38	57	40	..	..	..	57	19.	.....	.....	..	..	..	..	no	no	no	yes	1-2	1	39
2	16	3-5	....	21	41	40	31	12	7	3	22	19.	14.5	10.	40	5	2	15	yes	yes	no	no	.....	4	40
																								..	41
																								..	42
1	5	1-6	....	25	45	50	41	..	..	..	32	17.	.....	.....	..	..	..	..	no	no	no	no	1-6	2	43
2	16	1-2	....	39	54	53	49	55	3	2	60	17.5	14.	.....	71	..	..	20	no	no	no	yes	1-6	2	44
3	15	3-4	1	34	39	39	38	26	13	3	42	18.9	14.5	10.9	35	..	..	22	yes	no	no	no	1-12	3	45
2	21	3-5	1	28	48	47	44	..	..	..	24	19.	15.5	10.5	18	..	..	..	yes	yes	yes	yes	.....	2	46
1	7	1-5	....	..	..	..	..	..	..	..	..	18.	13.	8.	14	..	..	18	no	yes	yes	no	.....	1	47
..	7	1-18	....	16	40	40	30	26	4	2	32	16.	.....	.....	..	..	..	..	no	no	no	no	1-6	1	48
3	12	1-2	....	11	21	31	24	12	3	..	15	18.5	15.	11.3	23	..	..	6	no	no	no	no	1-10	1	49
1	6	.....	....	..	..	..	39	15	..	..	15	15.	12.	.....	..	..	..	..	no	no	yes	no	.....	..	50
2	13	1-2	3	30	55	45	40	..	..	..	73	20.	.....	.....	53	..	..	47	yes	no	no	no	1-6	2	51
																								..	52
1	7	1-4	....	27	39	44	38	15	10	2	27	17.	13.	9.	13	..	..	35	yes	yes	yes	no	1-4	1	53
																								..	54
3	8	1-4	....	33	39	49	42	48	16	9	73	19.	16.	11.	29	..	..	36	no	no	no	yes	.....	1	55
1	5	1-6	3	26	41	52	39	22	3	4	29	18.	14.	10.	7	..	..	15	yes	yes	yes	no	1-10	1	56
																								..	57
1	20	1-2	2	33	32	36	35	..	..	..	..	18.7	14.8	9.6	42	..	9	17	yes	no	no	no	1-4	2	58
1	4	1-20	1	35	40	75	53	..	..	..	..	16.	13.	10.	..	..	..	..	no	no	no	yes	.....	1	59
2	17	1-2	....	20	45	23	27	..	..	..	31	18.	14.	9.	51	..	..	22	no	no	no	yes	.....	1	60

TABLE XVII.—

Line number.	Cities having a population between 1,000 and 4,000, census of 1890.	School population from inspector's report.	Enrollment.				Average number belonging.				Average daily attendance.				Number of teachers			
			High School Department.	Grammar Department.	Primary Department.	Whole School.	High School Department.	Grammar Department.	Primary Department.	Whole School.	High School Department.	Grammar Department.	Primary Department.	Whole school.	High School Dept.		Grammar Dept.	
															M.	F.	M.	F.
61	Leslie	327	60	109	177	346	36	84	122	242	33	77	109	219	1.	....	....	2.
62	Lowell	708	75	205	270	550	60	150	195	404	57	186	171	364	1.	1.	1.	3.5
63	Luther	320	48	91	117	256	43	75	76	194	36	69	79	184	1.	1.	....	2.
64	Mancelona	561	41	111	324	476	26	65	205	296	23	61	168	252	1.	1.	....	2.
65	Manchester	414	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
66	Manistique	958	21	133	497	651	16	96	337	449	14	85	296	395	1.	1.	....	3.
67	Marine City	1,108	57	169	379	605	38	114	189	341	35	104	171	310	2.	1.	....	3.
68	Marshall	1,180	86	224	434	744	77	197	392	666	71	174	342	587	2.	2.	....	6.
69	Mason	422	40	167	231	438	75	141	157	373	70	138	128	336	1.	2.	....	4.
70	Michigamme	383	6	76	175	257	6	55	139	200	6	51	127	184	1.	....	....	2.
71	Midland	687	52	217	458	758	38	117	302	458	36	180	281	447	1.	1.	....	4.
72	Milford	396	117	103	155	375	88	76	108	272	82	71	99	252	1.	1.	....	2.
73	Montague	474	53	92	203	348	44	73	178	295	46	76	176	298	....	2.	....	2.
74	Morenci	323	35	102	70	207	35	102	70	207	....	....	....	190	....	....	....	....
75	Mount Pleasant	920	59	175	387	621	42	132	285	459	39	125	262	426	.2	2.	.4	4.
76	Nashville	318	90	118	124	332	76	98	115	289	75	96	110	281	1.	1.	....	3.
77	Newaygo	410	40	72	156	268	35	65	145	245	33	50	140	223	1.	....	....	2.
78	Newberry	479	38	51	176	265	25	30	57	112	25	34	47	106	1.	....	....	1.
79	North Muskegon	386	54	59	212	325	34	41	143	218	31	37	130	198	1.	1.	....	1.
80	Northville	504	29	125	236	390	26	113	168	307	25	108	150	278	1.	1.	....	2.
81	Ontonagon	621	27	157	370	554	17	99	261	377	16	79	219	314	1.	....	....	2.
82	Oscoda	802	29	103	361	493	....	....	....	362	....	....	....	....	....	2.	....	2.
83	Otsego	507	88	102	320	510	54	85	182	321	49	78	164	291	1.	1.	....	2.
84	Ovid	391	60	102	202	364	45	84	156	285	43	80	145	268	1.	1.	....	2.
85	Oxford	344	64	99	120	283	58	84	97	239	53	79	89	221	1.	2.	....	2.
86	Palmer	287	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
87	Paw Paw	338	129	197	201	527	111	181	175	467	104	171	163	438	1.	2.	....	2.
88	Pentwater	473	55	124	199	378	41	96	127	254	41	96	127	254	.8	1.	.1	2.
89	Petoskey	996	103	258	405	766	82	202	256	540	78	192	246	516	.5	3.	.3	5.6
90	Plainwell	376	66	106	204	376	56	96	143	286	54	89	126	269	1.	....	....	....
91	Plymouth	400	54	104	149	307	47	87	123	257	35	74	95	204	.8	1.	.1	2.
92	Portland	452	93	159	222	474	80	133	103	376	77	119	155	351	1.	3.	....	3.
93	Quincy No. 2	277	40	36	147	223	32	31	109	172	30	30	105	166	1.	....	....	1.
94	Red Jacket	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
95	Reed City	712	48	160	367	575	39	128	277	444	33	119	212	364	1.	1.	1.	3.
96	Republic	779	33	142	507	682	15	101	300	416	15	88	278	381	....	1.	....	3.
97	Richmond	218	73	27	106	206	56	25	76	157	54	23	58	135	1.	....	....	1.
98	Romeo	517	100	167	302	569	87	100	165	352	80	114	144	338	1.	2.	....	2.
99	Sand Beach	490	50	112	220	382	49	110	212	361	48	104	205	357	1.	1.	....	2.
100	South Haven	670	93	179	337	609	88	126	234	448	68	124	218	410	.8	1.	.1	3.
101	Spring Lake	394	149	134	54	337	105	103	34	242	99	78	30	207	1.	2.	....	3.
102	St. Clair	759	75	151	432	658	55	152	337	544	50	141	301	499	.5	3.	.5	3.
103	St. Ignace	717	44	102	496	642	32	97	291	420	27	79	284	390	2.	2.	....	2.
104	St. Johns	918	79	243	567	889	69	205	401	675	68	194	379	641	....	3.	....	5.
105	St. Joseph	1,812	108	300	657	1060	85	218	395	698	84	213	368	664	....	3.	....	6.
106	St. Louis	658	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
107	Stanton	420	38	77	275	391	28	65	244	337	27	59	224	310	1.	1.	....	2.
108	Sturgis	760	88	210	367	665	78	162	284	519	72	148	247	467	1.	2.	....	4.
109	Tawas City	515	30	58	196	284	27	52	180	259	25	53	184	262	1.	....	....	1.
110	Tecumseh	567	115	165	258	538	93	129	177	399	92	127	171	391	.5	3.	.3	4.
111	Three Rivers	811	142	224	406	772	124	192	306	622	121	185	193	599	2.5	2.	1.3	5.
112	Union City	354	125	99	183	407	102	88	175	365	98	82	164	344	....	....	....	....
113	Vassar	600	103	201	286	590	68	125	178	371	64	116	167	347	.6	2.	.2	3.
114	Wayne	369	52	117	189	358	44	88	131	263	42	81	112	235	.8	1.	.1	2.
115	West Branch	432	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
116	Whitehall	603	81	135	323	529	59	116	295	470	56	98	229	383	1.	2.	....	3.
117	Williamston	450	64	114	230	317	53	94	170	317	49	88	152	289	1.	1.	1.	2.
118	Wyandotte	1,594	52	106	517	675	44	118	318	480	37	75	338	450	2.	....	....	2.

CONTINUED.

regular employed.						No. of special teachers.	No. of pupils to each teacher.				No. of non-resident pupils.				Average age of class.			Number studying.				Does school give special instruction in			Has school kindergarten below primary grade.	Portion of time in first primary devoted to kindergarten work.	No. of U. S. Flags.	Line number.
Primary Dept.		Whole School.		Portion of superintendent's time given to supervision.			H. S. Dept.	Gram. Dept.	Prim. Dept.	Whole School.	H. S. Dept.	Gram. Dept.	Prim. Dept.	Whole School.	Graduated.	Promoted to High School.	Promoted to Gram. Dept.	Latin.	Greek.	French.	German.	Vocal music.	Drawing.	Penmanship.				
M.	F.	M.	F.																									
....	3.	1	5	1-10	..		36	41	41	40	38	17	..	55	18.	15.	11.	12	..	..	6	no	no	no	no	..	1	61
....	4.5	2	9	1-5	..		30	43	36	37	21	20	2	43	....	14.	10.	5	..	..	..	no	no	no	no	1-5	3	62
....	2.	1	5	1-15	..		23	38	38	33	1	2	..	3	18.	11.7	10.	..	..	..	..	yes	yes	yes	no	3-10	1	63
....	5.	1	8	1-20	..		13	30	34	33	5	5	8	18	.....	.....	.....	.....	.....	.....	.....	no	yes	yes	no	1-2	1	64
....	....	..	....	....	..		..	..	..	..	..	..	..	..	....	....	....	....	....	....	....	....	....	....	....	....	....	65
....	8.	1	12	1-4	..		16	30	42	29	2	7	..	9	16.	14.	9.	6	..	..	..	yes	yes	yes	no	1-4	1	66
....	6.	2	10	.....	..		13	38	32	24	9	3	..	12	.....	.....	.....	5	..	..	3	no	yes	yes	no	.....	2	67
....	9.	2	17	1-3	1		19	36	44	36	17	5	4	26	.....	.....	.....	61	3	..	38	yes	no	no	no	1-4	2	68
....	4.	1	10	1-2	..		25	35	39	41	55	24	6	85	19.	15.	10.	33	..	..	12	no	no	no	no	1-15	2	69
....	2.	1	4	.....	..		6	22	69	40	..	..	..	..	.....	14.6	10.4	..	..	..	..	no	no	no	yes	1-12	1	70
....	6.	1	11	1-4	..		19	29	43	38	..	14	1	15	18.5	15.	11.5	6	..	..	..	no	no	no	no	1-3	2	71
....	3.	1	6	1-12	..		44	38	36	39	33	3	2	38	17.	13.	10.	..	..	..	..	no	no	no	no	.....	1	72
1.	3.	1	7	1-6	1		22	36	45	37	6	6	6	18	14.	11.	8.	..	..	..	..	yes	no	no	yes	1-6	1	73
....	....	1	6	1-3	..		35	..	..	30	..	..	..	30	18.	.....	.....	12	..	..	13	no	yes	yes	no	1-2	1	74
.4	7.	1	13	4-5	..		20	31	41	33	16	2	1	19	19.	.....	.....	25	..	..	16	no	no	no	no	1-6	3	75
....	2.	1	6	1-12	..		42	42	55	41	..	..	..	46	17.	14.	10.	23	..	..	21	no	no	no	no	1-3	1	76
....	3.	1	5	1-6	..		35	32	48	41	..	..	..	5	17.	.....	.....	..	..	..	..	no	no	no	no	1-2	1	77
....	2.	1	3	1-10	..		25	30	38	28	..	..	..	..	.....	12.	10.	..	..	..	..	yes	no	yes	no	.....	1	78
1.	3.	2	5	1-4	..		34	41	31	31	3	..	..	3	18.	13.	9.	..	..	..	..	no	no	yes	yes	1-2	3	79
....	4.	1	7	1-8	..		18	56	42	38	..	..	..	..	17.	15.4	11.	5	..	..	12	no	no	no	no	1-12	1	80
....	10.	1	12	.....	..		17	49	26	31	..	..	..	..	.....	14.	10.	..	..	..	10	no	no	no	no	.....	2	81
....	6.	..	10	1-6	..		..	..	..	36	..	1	..	1	.....	.....	.....	..	..	..	..	no	no	no	no	1-3	3	82
....	5.	1	8	1-4	..		27	41	36	35	22	5	..	27	17.	15.	12.	8	..	..	1	no	no	no	no	1-4	1	83
....	4.	1	7	1-4	..		45	42	40	36	30	7	2	39	18.	13.	8.5	7	..	..	..	no	no	no	no	1-10	1	84
....	2.	1	6	1-3	..		19	42	49	34	18	3	1	22	17.	12.	8.	1	..	..	..	no	no	no	no	1-4	1	85
....	....	..	....	....	..		..	..	..	..	..	..	..	..	....	....	....	....	....	....	....	....	....	....	....	....	....	86
....	3.	1	7	2-7	1		37	56	58	50	37	6	2	45	18.	14.	9.	38	5	..	19	no	no	yes	no	1-10	1	87
.1	3.	1	6	1-4	..		41	48	42	42	6	4	2	12	16.	13.	9.	30	..	..	4	no	yes	yes	no	1-2	1	88
.2	6.4	1	15	1-2	..		23	38	38	35	10	2	1	13	17.3	14.7	10.	39	..	..	21	yes	no	no	no	1-5	2	89
....	....	1	7	1-8	1		56	60	34	35	..	..	..	31	18.	15.	11.	2	..	..	18	yes	no	no	no	.....	1	90
.1	3.	1	6	1-8	..		18	37	32	37	25	4	..	29	19.	15.	11.	12	..	..	8	no	no	no	no	.....	1	91
....	5.	1	11	1-6	..		38	41	40	31	..	..	..	..	16.5	14.	10.5	20	..	..	..	no	no	yes	yes	1-10	2	92
....	3.	1	4	1-5	..		32	31	36	34	2	3	4	9	.....	12.	10.	..	..	..	..	yes	yes	yes	no	1-5	1	93
....	....	..	....	....	..		..	..	..	..	..	..	..	..	....	....	....	....	....	....	....	....	....	....	....	....	....	94
....	5.	2	9	1-6	..		18	32	55	35	1	3	..	4	17.	.....	.....	20	..	..	14	no	no	yes	no	1-4	1	95
....	7.	1	11	1-2	..		15	34	43	31	..	..	..	..	.....	.....	.....	2	..	..	..	no	no	no	no	1-18	1	96
....	2.	1	3	1-5	..		56	25	37	40	31	3	1	38	16.9	15.1	9.7	19	..	..	..	yes	yes	yes	no	1-2	1	97
....	4.	1	8	.....	..		44	50	47	47	..	..	..	26	18.5	.....	.....	49	7	..	24	no	no	no	no	1-4	1	98
....	3.	1	6	1-5	1		25	56	78	51	8	2	..	10	17.5	11.6	9.2	22	..	..	..	yes	no	no	yes	1-3	1	99
.1	5.	1	9	1-4	..		50	42	47	45	31	20	7	58	18.2	.....	.....	8	..	..	..	no	no	no	no	1-3	1	100
1.	1.	2	5	1-3	..		42	41	16	35	..	..	4	4	.....	13.	9.	..	..	..	..	yes	yes	yes	no	1-3	2	101
....	7.	1	13	1-3	..		16	43	48	41	10	4	4	18	19.	.....	.....	28	..	3	6	yes	no	no	no	1-12	4	102
....	5.	2	9	1-3	..		8	49	58	39	..	..	..	2	.....	.....	.....	4	..	..	..	no	no	no	no	.....	2	103
....	8.	1	16	1-2	1		20	41	50	41	20	14	6	40	18.8	15.	11.	32	..	..	12	yes	yes	no	no	1-4	3	104
....	10.	1	19	2-3	..		28	36	40	35	..	..	..	14	17.3	14.	11.	51	..	..	20	no	no	no	no	1-4	2	105
....	....	..	....	....	..		..	..	..	..	..	..	..	..	....	....	....	....	....	....	....	....	....	....	....	....	....	106
....	6.	1	9	1-12	..		27	32	37	33	..	..	..	3	18.	15.	12.	7	..	..	..	yes	yes	yes	....	.....	..	107
....	6.	1	12	1-4	1		34	41	57	41	4	7	42	53	16.3	.....	.....	3	..	..	27	yes	no	no	.....	.....	1	108
....	4.	1	5	1-10	..		30	52	45	43	6	2	8	16	16.	14.	8.	..	..	..	..	no	no	yes	yes	1-12	2	109
.2	6.	1	13	1-2	2		31	32	28	28	43	11	1	55	18.	14.	10.	84	..	..	20	yes	no	yes	no	1-4	2	110
.2	9.	4	16	1-2	1		27	32	38	31	11	3	4	18	18.	14.	9.3	44	..	3	23	yes	no	no	no	1-6	2	111
....	....	3	8	1-2	..		29	42	44	37	..	..	..	..	17.5	14.	10.	32	2	..	48	yes	no	no	no	1-5	1	112
.2	4.	1	9	1-6	1		25	37	40	34	38	5	3	46	18.	15.2	10.5	19	..	..	..	yes	no	no	yes	1-2	2	113
.1	3.	1	6	3-5	..		25	41	42	38	22	11	3	36	17.	14.5	11.	6	..	..	13	no	no	no	no	.....	1	114
....	....	..	....	....	..		..	..	..	..	..	..	..	..	....	....	....	....	....	....	....	....	....	....	....	....	....	115
....	6.	1	11	1-5	..		19	37	49	39	..	..	..	6	.....	.....	.....	..	..	..	..	no	no	yes	yes	.....	1	116
....	3.	2	6	1-8	..		27	31	37	38	24	21	3	48	18.	15.	11.	24	..	..	18	no	yes	yes	yes	1-4	2	117
....	7.	2	9	1-2	1		44	42	50	48	7	4	..	11	17.	13.	10.	..	..	..	..	yes	no	no	no	.....	3	118

*TABLE XVIII.—*Financial statistics of city schools as reported by superintendents for the year 1892–1893.*

Cities having population over 4,000, census 1890.	Amount paid superintendent.	Amount paid regular teachers.	Amount paid special teachers.	Total amount paid for instruction.	Cost of education per capita in—											
					High school for—			Grammar Dept. for—			Primary Dept. for—			Whole school for—		
					Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.
Adrian	$1,800 00	$12,708 25	$1,720 00	$16,228 25	$23 68	$5 63	$29 31	$12 53	$5 63	$18 16	$10 48	$5 63	$16 11	$14 28	$5 63	$19 91
Alpena	1,700 00	12,921 00	.....	14,621 92	23 68	11 67	40 35	11 23	11 67	22 90	7 71	11 67	19 38	11 17	11 67	22 84
Ann Arbor	2,200 00	27,711 85	1,250 00	31,161 85	26 56	3 80	30 36	15 20	3 80	19 00	10 75	3 80	14 55	16 37	3 80	20 17
Au Sable	1,200 00	4,365 00	.....	5,565 00	31 10	4 97	36 07	14 63	4 97	19 60	9 61	4 97	14 58	11 74	4 97	16 71
Battle Creek	1,800 00	22,400 00	1,180 00	25,380 00	.....	7 80	.....	.....	7 80	.....	12 00	7 80	19 80	11 90	7 80	19 70
Bay City	2,250 00	41,524 82	1,975 00	45,749 82	31 78	5 75	37 53	17 15	5 75	22 90	11 41	5 75	17 16	14 71	5 75	20 46
Big Rapids	1,400 00	9,020 00	500 00	10,920 00	23 73	5 61	28 34	14 80	5 61	20 41	13 70	5 61	19 31	13 12	5 61	18 73
Cadillac	1,800 00	9,420 00	.....	11,220 00	46 15	6 68	52 83	11 40	6 68	18 08	11 83	6 68	18 51	13 29	6 68	19 97
Calumet	2,150 00	22,332 40	1,550 00	26,032 40	.....	4 38	.....	.....	4 38	.....	.....	4 38	.....	14 19	4 38	18 57
Cheboygan	1,100 00	7,743 05	.....	8,843 05	.....	3 40	.....	.....	3 40	.....	.....	3 40	.....	12 49	3 40	15 89
Coldwater	1,800 00	10,250 30	600 00	12,150 30	8 27	6 73	15 00	2 27	6 73	9 00	.....	6 73	.....	12 82	6 73	19 55
Detroit	4,000 00	382,999 99	8,500 00	395,499 99	36 18	7 82	44 00	20 28	7 82	28 10	11 98	7 82	19 80	17 20	7 80	25 00
Escanaba	1,500 00	5,700 00	.....	7,200 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flint	1,500 00	16,391 30	600 00	18,491 30	18 40	11 01	29 41	5 40	11 01	16 41	11 09	11 01	22 10	11 63	11 01	22 64
Grand Haven	1,500 00	11,530 00	850 00	13,880 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand Rapids	3,000 00	161,227 38	3,900 00	168,127 38	27 63	5 26	32 89	17 54	5 26	22 80	13 77	5 26	19 03	15 86	5 26	21 12
Ionia	1,300 00	11,495 80	.....	12,795 80	26 28	3 20	29 48	16 89	3 20	20 09	10 86	3 20	14 06	14 98	3 20	17 98
Iron Mountain	1,500 00	13,700 00	500 00	15,700 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 24	13 14	25 38
Ironwood	1,800 00	11,670 00	600 00	14,070 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	12 00	22 00	34 00
Ishpeming	2,000 00	15,069 50	1,000 00	18,069 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 99	5 07	17 06
Jackson No. 1	1,600 00	23,300 00	1,100 00	26,000 00	26 50	1 78	28 28	16 80	1 78	18 08	14 20	1 78	15 98	14 77	1 78	16 55
Jackson No. 17	1,500 00	11,261 25	500 00	13,261 25	17 00	2 07	19 07	8 75	2 07	10 82	5 83	2 07	7 40	9 39	2 07	11 46
Kalamazoo	1,800 00	32,450 00	750 00	34,200 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	11 80	6 77	18 57
Lansing	1,800 00	24,611 25	500 00	26,911 25	21 17	7 08	28 25	9 81	7 08	16 89	10 88	7 08	18 96	13 95	7 08	21 03
Ludington	1,200 00	15,554 63	300 00	17,054 63	16 88	5 41	22 29	10 01	5 41	15 42	10 39	5 41	15 80	12 09	5 41	17 50
Manistee	1,700 00	23,752 55	1,125 00	26,577 55	.....	.....	.....	.....	.....	.....	.....	.....	.....	15 07	7 83	22 90
Marquette	1,600 00	15,816 00	500 00	17,916 00	37 47	5 63	43 10	19 40	5 63	25 03	11 89	5 63	17 52	15 41	5 63	21 04
Menominee	1,700 00	16,694 50	.....	18,394 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monroe	1,400 00	6,875 00	.....	8,275 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	16 85	12 18	29 03
Mt. Clemens	1,200 00	7,834 00	77 50	9,111 50	11 23	9 31	20 54	8 80	9 31	18 11	2 12	9 31	11 43	13 69	9 31	23 00
Muskegon	2,100 00	49,571 36	4,675 00	56,346 36	35 19	10 56	45 75	12 36	10 56	22 92	12 60	10 56	23 16	14 89	10 56	25 45
Negaunee	1,600 00	9,811 25	.....	11,411 25	26 79	11 57	38 36	12 56	11 57	23 13	11 42	11 57	22 99	13 25	11 57	24 82
Niles	1,600 00	7,830 00	512 50	9,942 50	23 47	3 11	26 58	11 15	3 11	14 26	10 69	3 11	13 80	12 69	3 11	15 80
Owosso	1,600 00	14,215 75	.....	15,815 75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pontiac	1,330 00	10,216 00	500 00	12,046 00	28 63	5 62	34 25	9 54	5 62	15 16	9 21	5 62	14 83	13 09	5 62	18 71

Port Huron	1,700 00	20,869 00		22,569 00	28 80	6 04	33 34	12 13	6 04	18 17	8 35	6 04	14 39	11 17	6 04	17 21
Saginaw E. S.	2,400 00	58,895 76	2,600 00	63,895 76												
Saginaw W. S.	2,000 00	32,117 24	1,500 00	35,617 24	28 64	4 90	33 54	16 48	4 90	21 38	8 50	4 90	13 40	12 20	4 90	17 10
Sault Ste. Marie	1,400 00	7,858 80		9,258 80	19 85	7 86	27 71	9 76	7 86	17 62	11 99	7 86	19 85	11 31	7 86	19 17
Traverse City	1,800 00	9,698 86	585 00	12,083 86										11 45	6 62	18 07
West Bay City																
Ypsilanti	1,500 00	8,787 25	500 00	10,787 25										15 52	4 68	20 20
Cities having a population between 1,000 and 4,000, census of 1890.																
Albion	1,800 00	7,654 50	114 00	8,068 50												
Algonac	720 00	1,094 00		1,814 00										5 00	4 00	9 00
Allegan																
Alma	1,000 00	3,107 50	100 00	4,207 50	24 82	4 16	28 98	12 04	4 16	16 20	9 14	4 16	13 30	12 66	4 16	16 82
Atlantic Mine	950 00	1,650 00		2,600 00										13 68	5 26	18 94
Belding	900 00	3,211 50	300 00	4,411 25	17 72	2 65	20 37	17 72	2 65	20 37	5 76	2 65	8 41	10 00	2 65	12 65
Benton Harbor No. 9	1,200 00	8,442 00	405 00	10,047 00												
Bessemer	1,200 00	3,990 00		5,190 00	27 28	2 31	29 59	15 00	2 31	17 31	7 13	2 31	9 44	9 63	2 31	11 94
Blissfield	800 00	900 00		1,700 00	13 41	2 93	16 34	10 04	2 93	12 97	7 78	2 93	10 71	10 89	2 93	13 82
Buchanan	1,000 00	3,657 50		4,657 50										11 27	2 92	14 19
Caro	800 00	3,150 00	400 00	4,350 00												
Carrollton No. 1	750 00	1,000 00		1,750 00	23 44	2 25	25 69	5 95	2 25	8 00	3 57	2 25	5 82	6 88	2 25	9 08
Cassopolis	1,025 00	2,944 50		3,969 50	21 36	4 61	25 97	13 42	4 61	18 03	11 72	4 61	16 33	14 23	4 61	18 84
Cedar Springs	800 00	2,072 00		2,872 00	31 50	2 15	33 65	9 75	2 15	11 90	6 35	2 15	8 50	11 30	2 15	13 45
Champion																
Charlevoix	950 00	2,116 00	320 00	3,386 00	10 61	4 25	14 86	10 61	4 25	14 86	10 61	4 25	14 86	10 61	4 25	14 86
Charlotte	1,550 00	10,990 75		11,860 75	19 17	5 13	24 29	13 15	5 12	18 27	12 47	5 12	17 59	14 91	5 12	20 03
Chelsea																
Chesaning	800 00	2,190 00		2,990 00	18 65	7 98	26 63	9 63	7 98	17 61	8 48	7 98	16 46	11 85	7 98	20 23
Clare	800 00	1,850 00		2,650 00												
Constantine	900 00	2,500 00		3,400 00	18 00	4 00	22 00	9 00	4 00	13 00	6 00	4 00	10 00	14 00	4 00	18 00
Corunna	1,000 00	2,920 00		3,920 00	29 75	4 27	34 02	10 97	4 27	15 24	8 62	4 27	12 89	13 33	4 27	17 60
Decatur	1,000 00	2,138 00		3,138 00	11 74	2 92	14 66	9 47	2 92	12 39	7 53	2 92	10 45	8 99	2 92	11 91
Dowagiac	1,300 00	5,150 00		6,450 00												
Dundee																
East Lake	600 00	1,350 00		1,950 00	8 59	2 61	11 20	6 00	2 61	8 61	3 15	2 61	5 76	5 50	12 61	8 11
East Tawas	1,000 00	2,700 00		3,700 00	15 02	2 20	17 22	9 86	2 20	12 06	8 83	2 20	11 03	9 54	2 20	11 74
Eaton Rapids																
Elk Rapids	1,200 00	3,200 00		4,400 00										9 72	6 16	15 88
Essexville	700 00	1,200 00		1,900 00				13 00	4 02	17 02	10 00	4 02	14 02	11 25	4 02	15 27
Evart	1,000 00	3,000 00		4,000 00										8 95	2 70	11 65
Fenton	1,000 00	4,750 00		5,750 00										11 17	4 00	15 17
Fowlerville																
Ford River																
Frankfort	800 00	2,720 00		3,520 00	25 00	2 84	27 84	9 90	2 84	12 74	9 30	2 84	12 14	13 50	2 84	15 34

*Where a blank occurs in the table the item was not reported.

TABLE XVIII.—Continued.

Cities having a population between 1,000 and 4,000, Census of 1890.	Amount paid superintendent.	Amount paid regular teachers.	Amount paid special teachers.	Total amount paid for instruction.	Cost of education per capita in—											
					High school for—			Grammar Dept. for—			Primary Dept. for—			Whole school for—		
					Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction.	Incidentals.	Total.	Instruction	Incidentals.	Total.
Fremont	$800 00	$1,850 00		$2,650 00	$17 31	$2 25	$19 56	$8 05	$2 25	$10 30	$6 29	$2 25	$8 54	$8 63	$2 25	$10 88
Gladstone	1,000 00	1,650 00		2,650 00	28 67	3 50	32 07	10 53	3 50	14 03	7 83	3 50	11 33	11 40	3 50	14 90
Grand Ledge No. 9	850 00	1,400 00		2,250 00										10 90	1 92	12 82
Greenville	1,300 00	6,320 00	$450 00	8,070 00	27 59	3 26	30 85	11 96	3 26	15 22	10 79	3 26	14 05	14 26	3 26	17 52
Hancock																
Harbor Springs																
Hartford	810 00	1,721 00	12 00	2,543 00										9 34	1 20	10 54
Hastings	1,200 00	5,867 00		7,067 00	16 20	3 66	19 86	8 00	3 66	11 66	10 63	3 66	14 29	10 90	10 98	21 88
Hillsdale	1,350 00	6,254 88	295 00	7,899 88	16 68	3 91	20 59	11 26	3 91	15 17	9 97	3 91	13 88	11 40	3 91	15 31
Holland	1,200 00	6,790 00	384 25	8,374 25	22 36	3 26	25 62	8 28	3 26	11 54	7 03	3 26	10 29	8 37	3 26	11 63
Holly	1,000 00	2,420 00		3,420 00										12 44	2 70	15 14
Homer	650 00	1,800 00		2,450 00										11 00	3 35	14 35
Houghton No. 1	1,500 00	8,390 00		9,890 00												
Howard City	750 00	1,765 75		2,515 75										9 34	1 26	10 60
Howell	1,100 00	4,368 00		5,468 00												
Hudson																
Imlay City	1,000 00	2,150 00		3,150 00	24 07	1 08	25 15	8 42	1 08	9 50	7 13	1 08	8 21	10 28	1 08	11 36
Iron River																
Ithaca	1,000 00	3,567 75		4,567 75	18 49	3 94	22 43	9 96	394	13 90	7 42	3 94	11 36	9 93	3 94	13 87
Jonesville	1,000 00	2,042 00	325 00	3,367 00	18 80	4 20	23 00	11 26	4 20	15 46	9 60	4 20	13 80	14 17	4 20	18 37
Kalkaska																
Lake Linden	1,500 00	9,623 76	400 00	11,523 76	27 77	6 21	33 98	19 32	6 21	25 53	11 50	6 21	17 71	16 42	6 21	22 63
Lakeview	700 00	1,280 00	27 50	2,007 50										7 57	1 79	9 36
Lapeer	1,000 00	4,990 00		5,990 00												
Leslie	950 00	1,700 00		2,650 00	27 10	95	28 05	8 10	95	9 05	8 60	95	9 55	11 00	95	11 95
Lowell	900 00	3,400 00		4,300 00	15 20	2 99	18 19	6 24	2 99	9 23	7 00	2 99	9 99	7 84	2 99	10 83
Luther	685 00	1,601 00		2,286 00										11 78	2 80	14 58
Mancelona	760 00	2,302 00		3,062 00										10 43	2 53	12 96
Manchester																
Manistique	1,200 00	6,000 00	15 00	7,215 00										16 07	4 37	20 44
Marine City	1,493 50	3,101 50		4,595 00										13 47	5 71	19 18
Marshall	1,500 00	7,170 00	245 00	8,915 00										13 37	5 77	19 14
Mason	1,000 00	3,495 00		4,495 00	20 68	10 00	30 68	7 68	10 00	17 68	11 68	10 00	21 68	12 00	10 00	22 00
Michigamme	1,000 00	1,750 00		2,750 00										13 75	17 50	31 25
Midland	800 00	3,800 00		4,600 00	22 40	5 46	27 86	13 40	5 46	18 86	5 41	5 46	10 87	10 15	5 46	15 61

Milford	850 00	1,770 00		2,620 00										10 38	4 04	14 42
Montague	600 00	2,625 00	150 00	3,375 00	22 97	2 38	25 35	11 97	2 38	14 35	10 75	2 38	13 13	11 97	2 38	14 35
Morenci	900 00	1,997 70		2,797 70										13 50	3 22	16 72
Mount Pleasant	1,100 00	4,800 00		5,900 00	29 90	6 54	36 44	12 90	6 54	19 44	9 69	6 54	16 23	12 85	6 54	19 39
Nashville	750 00	1,824 00		2,574 00	11 00	1 03	12 03	6 56	1 03	7 59	5 43	1 03	6 46	8 75	1 03	9 78
Newaygo	800 00	1,800 00		2,600 00										10 61	2 92	13 53
Newberry	1,000 00	1,300 00		2,300 00												
North Muskegon	850 00	2,025 00		2,875 00										13 18	6 30	19 48
Northville	900 00	2,120 00		3,020 00										7 71	3 23	10 94
Ontonagon	1,000 00	4,520 00		5,520 00												
Oscoda	1,000 00	3,527 00		4,527 00										12 51	4 87	17 38
Otsego	950 00	2,394 00		3,344 00										10 42	2 60	13 02
Ovid	1,000 00	2,290 00		3,290 00	20 00	3 75	23 75	3 71	3 75	7 46	9 58	3 75	13 33	33 29	3 75	37 04
Oxford	1,000 00	1,920 00		2,920 00	14 67	3 49	18 16	11 55	3 49	15 04	11 18	3 49	14 67	12 21	3 49	15 70
Palmer																
Paw Paw	1,200 00	2,680 00	250 00	4,130 00	11 57	2 28	13 85	7 37	2 28	9 65	8 62	2 28	10 90	8 42	2 28	10 70
Pentwater	1,000 00	2,055 00		3,055 00										12 00	3 00	15 00
Petoskey	1,200 00	6,004 75		7,204 75	24 84	3 63	28 47	11 38	3 63	15 01	10 95	3 63	14 58	13 34	3 63	16 97
Plainwell	900 00	2,256 00	127 50	3,183 50	16 52	3 19	19 71	10 07	3 19	13 26	9 66	3 19	12 85	11 13	3 19	14 32
Plymouth	1,000 00	2,175 00		3,175 00	25 89	3 19	29 08	9 67	3 19	12 86	9 16	3 19	12 35	12 35	3 19	15 54
Portland	900 00	3,425 00		4,325 00	16 50	3 81	20 31	14 20	3 81	18 01	10 50	3 81	14 31	11 50	3 81	15 31
Quincy No. 1	1,000 00	1,600 00		2,600 00	25 92	5 56	31 48	15 63	5 56	21 19	11 63	5 56	17 24	15 05	5 56	20 61
Red Jacket																
Reed City	1,000 00	3,780 00		4,780 00										10 65	2 12	12 77
Republic	1,600 00	6,000 00		7,600 00										18 26	7 78	26 04
Richmond	810 00	792 00		1,602 00	12 94	1 82	14 76	12 72	1 82	14 54	10 03	1 82	11 85	11 89	1 82	13 71
Romeo	1,500 00	2,675 00		4,175 00										11 85	3 93	15 78
Sand Beach	950 00	1,875 00		2,825 00	9 40	2 90	12 30	8 40	2 90	11 30	6 25	2 90	9 15	7 83	2 90	10 73
South Haven	1,000 00	2,673 00		3,673 00	13 64	2 49	16 10	7 48	2 46	9 94	6 11	2 46	8 57	8 19	2 46	10 65
Spring Lake	800 00	1,860 50		2,660 50	11 00	1 24	12 24	8 37	1 24	9 61	9 19	1 24	10 43	10 99	1 24	12 23
St. Clair	1,000 00	4,497 50	315 00	5,812 50										10 88	5 70	16 58
St. Ignace	1,100 00	3,650 00		4,750 00										11 30	3 14	14 44
St. Johns	1,200 00	6,260 00	200 00	7,660 00	30 89	3 28	34 17	10 19	3 28	13 47	9 06	3 28	12 34	11 34	3 28	14 60
St. Joseph	1,250 00	6,800 00		8,050 00										7 59	1 21	8 80
St. Louis																
Stanton	850 00	2,940 00		3,790 00	17 00	3 21	20 21	13 29	3 21	16 50	10 79	3 21	14 00	11 24	3 21	14 45
Sturgis	1,100 00	3,738 00	288 00	5,126 00										9 13	4 27	13 40
Tawas City	850 00	1,950 00		2,800 00	10 62	3 06	13 68	8 65	3 06	11 71	8 88	3 06	11 94	9 38	3 06	12 44
Tecumseh	1,200 00	4,425 00	282 00	5,907 00	23 30	4 67	27 97	12 07	4 67	16 74	12 20	4 67	16 87	14 77	4 67	19 44
Three Rivers	1,100 00	7,264 00	400 00	8,764 00										14 07	5 24	19 31
Union City	1,000 00	2,450 00	70 00	3,520 00										9 64	3 96	13 60
Vassar	1,100 00	2,540 00	300 00	3,940 00	21 03	3 42	24 45	9 84	3 42	13 26	8 87	3 42	12 29	16 20	3 42	19 62
Wayne	900 00	1,700 00		2,600 00	22 02	3 20	25 22	8 10	3 20	11 30	7 01	3 20	10 21	9 89	3 20	13 09
West Branch																
Whitehall	1,000 00	3,677 50		4,677 50	31 60	2 44	34 04	9 25	2 44	11 69	6 90	2 44	9 34	11 44	2 44	13 88
Williamston	800 00	2,400 00		3,200 00	22 64	4 06	26 70	9 60	4 06	13 66	6 70	4 06	10 76	12 98	4 06	17 04
Wyandotte	1,100 60	3,782 50	200 00	5,082 50	27 72	5 19	32 91	12 50	5 19	17 69	6 87	5 19	12 06	10 59	5 19	15 78

TABLE XIX.

Receipts and expenditures at teachers' institutes for the calendar year 1893.

Counties.	Location.	Date.	Receipts.		Expenditures.			Totals.
			County fund.	State fund.	Compensation of instructors.	Expenses of instructors.	Other expenses.	
Totals			$10,434 48	$1,670 21	$8,394 80	$2,776 18	$934 16	$12,104 64
Allegan	Allegan	April 3-7	$228 37		$129 00	$59 28	$40 09	$228 37
Alpena	Alpena	April 10-14	83 50	60 00	73 00	14 50	6 00	93 50
Antrim	Bellaire	July 24-28	93 50	10 00	81 50	22 00		103 50
Arenac	Standish	February 20-24	20 50	60 00	68 45	10 55	1 50	80 50
Baraga	L'Anse	October 9-13	30 00	60 00	26 30	51 00	12 70	90 00
Barry	Hastings	August 28, September 1	215 00		160 00	47 58	7 42	215 00
Bay	Bay City	August 28, September 1	219 31		147 50	56 66	15 15	219 31
Benzie	Benzonia	August 7-11	69 50	35 00	70 15	30 10	4 25	104 50
Berrien	St. Joseph	July 17-28	317 29		224 00	67 54	25 75	317 29
Branch	Coldwater	July 17-21	146 50		100 00	38 75	7 75	146 50
Calhoun	Marshall	March 27-31	211 90		145 00	42 55	24 35	211 90
Charlevoix	Boyne City	August 21-25	89 08	35 00	83 83	32 15	8 10	124 08
Cheboygan	Cheboygan	August 28, September 1	79 50	45 00	77 86	46 64		124 50
Chippewa	Sault Ste. Marie	April 10-14	52 50	60 00	77 80	34 70		112 50
Clare	Clare	April 17-21	57 00	60 00	85 00	18 70	13 30	117 00
Clinton	St. Johns	August 7-11	201 16		137 50	46 41	17 25	201 16
Crawford		See Roscommon.						
Dickinson, Iron	Iron Mountain	August 21-25	39 50 / 36 00	50 00	106 00	19 50		125 50
Eaton	Charlotte	August 14-25	386 25		280 00	61 35	44 90	386 25
Emmet	Harbor Springs	August 28, September 1	67 50	50 00	73 30	44 20		117 50
Genesee	Flint	August 21-25	210 91		150 00	47 26	13 65	210 91
Gladwin	Gladwin	March 27-31	26 00	60 00	63 64	2 20	20 16	86 00
Grand Traverse	Traverse City	August 21-25	98 50	20 00	100 00	12 20	6 30	118 50
Gratiot	Ithaca	August 21-25	165 79		110 00	46 19	9 60	165 79
Hillsdale	Hillsdale	August 14-25	421 88		272 50	98 88	50 50	421 88
Huron	Bad Axe	May 15-22	147 00		100 00	40 40	6 60	147 00
Ingham	Mason	March 27-31 / August 28, September 1	185 88 / 161 50		110 00 / 120 00	30 88 / 30 55	15 00 / 10 95	185 88 / 161 50
Iosco	Tawas City	April 3-7	60 50	58 55	100 00	14 55	4 50	119 05
Iron		See Dickinson.						

Isabella	Mt. Pleasant	August 21-25	128 65		100 00	18 50	10 15	128 65
Jackson	Jackson	March 27-31	212 00		125 00	81 75	55 25	212 00
Kalamazoo	Kalamazoo	August 14-25	328 11		239 20	86 76	2 15	328 11
Kalkaska	Kalkaska	April 3-7	41 50	60 00	75 00	26 50		101 50
Kent	Grand Rapids	August 21, September 1	394 86		287 50	84 70	22 66	394 86
Keweenaw	Central Mine	May 11-13	22 00	60 00	70 00		12 00	82 00
Lake	Luther	August 21-25	54 00	55 00	76 00	80 00	3 00	109 00
Lapeer	Lapeer	August 14-25	327 33		230 00	53 01	44 32	327 33
Leelanau	Leland	August 14-18	51 00	55 00	68 64	26 05	11 31	106 00
Lenawee	Adrian	August 14, September 1	471 05		350 00	97 30	23 75	471 05
Livingston	Howell	August 7-11	214 29		150 00	45 48	18 81	214 29
Luce	Newberry	August 28, September 1	28 00	60 00	53 15	34 85		88 00
Macomb	Romeo	August 28, September 1	133 17		110 00	14 67	8 50	133 17
Mason	Ludington	August 14-18	96 32	20 00	85 27	28 55	2 50	116 32
Menominee	Menominee	August 28, September 1	59 00	50 00	64 70	44 30		109 00
Midland	Midland	August 28, September 1	110 50	35 00	104 80	33 70	7 00	145 50
Missaukee	Lake City	August 28, September 1	54 60	50 00	77 85	26 75		104 60
Monroe	Monroe	July 24-25	182 56		110 00	53 80	18 76	182 56
Montcalm	Stanton	August 14-18	150 50	20 00	110 00	44 00	16 50	170 50
Montmorency	Hillman	June 26-30	19 50	58 36	45 00	32 86		77 86
Muskegon	Ravenna	June 26-30	116 90		85 00	25 90	6 00	116 90
Newaygo	Fremont	August 21-25	124 15		100 00	24 15		124 15
Oakland	Pontiac	August 21, September 1	282 36	25 00	237 20	64 76	5 40	307 36
Oceana	Shelby	August 28, September 1	119 60	10 00	95 07	34 53		129 60
Ogemaw	West Branch	May 15-19	34 50	60 00	88 87	6 13		94 50
Ontonagon	Ontonagon	October 16-21	30 00	60 00	52 82	27 18		90 00
Osceola	Reed City	August 28, September 1	169 52		140 00	24 52	5 00	169 52
Oscoda	Mio	June 26-30	36 00	60 00	71 20	18 12	6 68	96 00
Otsego	Gaylord	July 24-28	47 50	55 00	67 65	33 85	1 00	102 50
Ottawa	Coopersville	March 27-31	127 97		90 70	32 27	5 00	127 97
Presque Isle	Rogers City	December 18-22	29 50	58 80	50 00	27 80	10 00	87 80
Roscommon / Crawford	Roscommon	March 27-31	3 50 / 31 50	60 00	75 00	17 50	2 50	95 00
Saginaw	Saginaw, E. S.	May 18-20	172 54		86 00	73 04	13 50	172 54
		August 28, September 1	185 60		117 50	55 10	13 00	185 60
St. Clair	Port Huron	July 24, August 2	182 50		144 95	24 30	13 25	182 50
St. Joseph	Three Rivers	August 14-18	166 10		110 00	45 80	10 80	166 10
Schoolcraft	Manistique	April 3-7	24 00	60 00	65 20	18 80		84 00
Shiawassee	Owosso	August 7-11	288 03		252 50	24 53	11 00	288 03
Tuscola	Caro	August 7-11	195 95		147 50	41 90	6 55	195 95
Van Buren	Paw Paw	August 21-25	170 40		110 00	45 15	15 25	170 40
Wayne	Detroit	March 22-25	686 55		299 75	203 50	183 30	686 55
Wexford	Cadillac	July 10-14	59 00	35 00	73 45	17 05	3 50	94 00

TABLE XX.

Local committees, conductors, and instructors at teachers' institutes for the calendar year 1893.

Counties.	Local committees.	Conductors.	Instructors.	Instructors.	Instructors.	Instructors.
Allegan	P. A. Latta	E. C. Thompson	A. Hamlin Smith		Mrs. L. W. Treat.	
Alpena	J. A. Case	H. C. Rankin	L. S. Norton.			
Antrim	H. C. Lott	H. T. Blodgett	J. R. Jenkins.			
Arenac	S. E. Hayes	H. C. Rankin	U. C. Gregg.			
Baraga	W. C. Shafer	H. C. Rankin	C. E. Tuck.			
Barry	Enoch Andrus	W. N. Ferris	C. L. Bemis	Ophelia Satterlee.		
Bay	C. W. Hitchcock	H. King	J. O. Reed	Mrs. L. W. Treat	C. T. McFarlane.	
Benzie	Z. F. McGee	S. B. Laird	D. E. McClure.			
Berrien	E. P. Clark	Delos Fall	Smith Burnham	A. D. DeWitt.		
Branch	D. A. Teller	D. A. Hammond	W. J. McKone.			
Calhoun	A. G. Randall	C. H. Gurney	W. C. Hull	S. B. Laird.		
Charlevoix	Frank H. Ranney	A. J. Murray	G. A. McGee.			
Cheboygan	D. J. Galbraith	Chas. McKenney	F. R. Hathaway.			
Chippewa	P. T. Rowe	F. W. Arbury	A. J. Murray.			
Clare	H. M. Roys	J. N. McCall	S. D. Brooks.			
Clinton	R. M. Winston	Orr Schurtz	Frances Atwater	C. McKenney.		
Eaton	J. L. Wagner	C. N. Kendall	Chas. McKenney	W. N. Ferris	Jennie Tibbitts.	
Emmet	Abbie Roe	C. W. Hills	J. H. Sheffield.			
Genesee	A. E. Ransom	I. N. Demmon	C. L. Bemis	P. R. Cleary	Mrs. L. W. Treat.	
Gladwin	F. C. Smith	Delos Fall	W. A. Stevenson.			
Grand Traverse	G. W. McWethey	C. T. Grawn	P. M. Brown.			
Gratiot	O. G. Tuttle	Chas. McKenney	W. L. Shuart	Mrs. M. T. Dodge.		
Hillsdale	W. H. French	W. H. Cheever	G. A. Parker	A. Hamlin Smith	W. F. Lyon	Florence C. Fox.
Huron	E. Baskin	W. N. Ferris	E. E. Ferguson.			
Ingham, 2 institutes (1)	T. A. Stephens	J. W. Simmons	E. L. Briggs	W. J. McKone.		
Ingham, 2 institutes (2)	W. W. Weeks	C. O. Hoyt	C. E. McFarlane	W. C. Hull	Nettie D. Kimberlin.	
Iosco	J. E. McDonald	H. C. Rankin	J. K. Osgerby	J. E. McDonald.		
Iron and Dickinson	E. F. Abernethy	F. D. Davis	C. W. Mickens	Eva Lena Davis.		
Isabella	Fred Bellinger	C. H. Gurney	C. F. R. Bellows.			
Jackson	D. E. Haskins	D. E. Haskins	T. L. Evans	C. O. Hoyt.		
Kalamazoo	Ashley Clapp	G. J. Edgecumbe	N. H. Hayden	F. A. Barbour	L. O. Broadwell.	
Kalkaska	A. G. Pierce	Orr Schurtz	J. H. Thompson.			
Kent	A. Hamlin Smith	Delos Fall	E. A. Carpenter	W. F. Lyon	Ada V. Harris	Nettie D. Kimberlin.
Keweenaw	A. Nicholls	E. T. Curtis	W. H. Lyon.			
Lake	E. G. Johnson	F. E. Converse	L. B. Hall.			
Lapeer	C. E. Palmelee	C. O. Hoyt	Chas. Carlisle	E. T. Austin.		
Leelanau	E. J. Peck	Henry M. Enos	G. A. McGee.			
Lenawee	C. F. Field	E. C. Thompson	Webster Cook	P. R. Cleary	H. C. Rankin.	
Livingston	Stephen Durfee	Austin George	E. D. Watkins	Elnora Cuddeback.		

Luce	A. D. Chisholm	A. A. Hall	Peter Legg.			
Macomb	S. B. Russell	C. N. Kendall	W. F. Lyon	O. D. Thompson.		
Mason	Effie G. Huston	J. W. Ewing	F. D. Smith.			
Menominee	Jesse Hubbard	G. J. Edgecumbe	Mrs. V. C. Edgecumbe	J. Hubbard.		
Midland	Melinda L. Mills	G. A. Parker	Mrs. Marie Dodge.			
Missaukee	Georgia Roche	C. F. R. Bellows	A. N. Howe.			
Monroe	T. E. Allen	D. E. Haskins	W. H. Cheever	P. R. Cleary.		
Montcalm	A. N. Demoray	C. B. Hall	W. V. Sage.			
Montmorency	Tillson Babcock	J. H. Hetley.				
Muskegon	T. J. G. Bolt	C. H. Gurney	G. T. Chapel.			
Newaygo	John Harwood	R. W. Putnam	D. E. McClure	John Harwood.		
Oakland	H. H. Snowdon	J. W. Smith	E. C. Goddard	Mary E. Fish.		
Oceana	D. E. McClure	W. J. McKone	Elnora Cuddeback.			
Ogemaw	Ben. Bennett	A. Hamlin Smith	Ben Bennett	K. Mae Bennett.		
Ontonagon	Anson Shuster	S. B. Tobey		H. A. Graham.		
Osceola	O. B. Stark	R. W. Putnam	Albert Jennings	J. H. Thompson.		
Oscoda	S. Gorton	O. D. Thompson	S. Gorton.			
Otsego	F. W. Cogswell	R. W. Putnam	A. F. Doyle.			
Ottawa	C. C. Lillie	Chas. McKenney	E. P. Church	Elnora Cuddeback.		
Presque Isle	Griffin Covey	H. C. Rankin.				
Roscommon and Crawford	A. C. Sly	C. L. Bemis	A. C. Sly.			
Saginaw, 2 institutes { 1	M. T. Dodge	Jos. Estabrook	D. E. Haskins	Mrs. M. T. Dodge	C. T. McFarlane.	
Saginaw, 2 institutes { 2	E. C. Thompson	E. C. Thompson	B. A. Hinsdale	Nettie D. Kimberlin	Mrs. L. W. Treat.	
St. Clair	R. B. Fairman	J. H. Beazell.	G. H. Broesamle.			
St. Joseph	John Evart	C. H. Gurney	M. O. Graves	L. A. Broadwell.		
Schoolcraft	S. S. Beggs	S. B. Tobey	S. S. Beggs.			
Shiawassee	Mrs. L. E. Gould	J. W. Simmons	J. G Monroe	E. M Plunkett.		
Tuscola	T. J. Reavy	F. A. Barbour	C. W. McLean	R. L. Holloway	H. E. Gordon.	
Van Buren	J. A. O'Leary	Austin George	J. W. Simmons.			
Wayne	W. A. Ellis	W. A. Ellis	A. E. Winship	R. G. Boone	W. B. Powell.	Sarah L. Arnold.
Wexford	G. E. Herrick	G. R. Catton	J. R. Miller.			

TABLE XXI.

Enrollment at teachers' institutes for the calendar year 1893.

Counties.	No. of teachers required to supply the schools.	No. enrolled.			Kinds and grades of certificates held by members.						No. without experience in teaching.	No. having received Normal instruction.	Average attendance each half day.	No. of legally qualified teachers in county.	Percentage of whole No. of teachers that attended institutes.
		Men.	Women.	Total.	State.	Normal.	First.	Second.	Third.	Special.					
Totals	11,619	1,450	5,882	7,332	37	91	466	568	4,081	574	1,825	482	75.2	12,068	48.2
Alcona	33														
Alger	6														
Allegan	226	19	112	131	5	1	2	22	66		30	11	89.6	335	28.6
Alpena	65	5	48	53					32		18	2	45.	37	86.4
Antrim	95	11	43	54		1	2	1	37		13	2	48.3	105	39.
Arenac	31	14	40	54			2	4	23		25	1	51.	40	72.5
Baraga	19	6	33	39		3	5	5	12	1	13	6	34.5	31	83.8
Barry	186	36	118	154	1		5	19	105		35	2	122.5	261	49.8
Bay	219	30	134	164		1	13	14	131	2	17	11	100.6	242	66.5
Benzie	61	14	43	57		1	1	3	33		11	4	37.	84	45.2
Berrien	250	29	113	142		2	6	20	85		42	20	68.7	247	41.7
Branch	178	26	106	132		1	2	6	83	6	42	34	86.	256	38.2
Calhoun	271	39	104	143	1	2	8	13	95	2	33	10	93.	345	85.
Cass	150														
Charlevoix	86	10	33	43	1	1	1	6	30		3	3	33.3	112	34.8
Cheboygan	75	6	26	32			1	5	24		2	2	28.	50	60.
Chippewa	61	11	52	63		5	2	5	36	3	17	6	55.4	59	86.4
Clare	53	5	47	52		1	6	9	32		12	6	36.	86	55.8
Clinton	163	28	113	141	1		5	15	91	1	28	2	96.	242	43.6
Crawford	46														
Delta	59														
Dickinson	55														
Eaton	204	55	174	229	8	8	6	6	131		93	15	126.	271	58.6
Emmet	78	7	31	38	1	1	2	2	27	1	4	5	18.	88	38.6
Genesee	232	41	98	139	1		5	13	112		26	4	101.8	246	52.8
Gladwin	30	10	30	40				2	13		25	1	26.	26	57.6
Gogebic	41														
Grand Traverse	96	5	55	60			1	13	35		14	3	37.7	140	35.
Gratiot	172	37	83	120		1	2	12	61	2	24	4	109.5	223	34.9
Hillsdale	209	39	127	166		2	6	15	113	1	37	15	79.	317	43.2
Houghton	159														
Huron	135	50	177	167	1	6	10	11	88		52	12	160.	151	76.8
Ingham	225	46 35	121 95	167 130		1 3	1 4	14 15	90 78	1	70 39	14 11	124.8 98.	330	32.1 30.5
Ionia	211														
Iosco	58	6	33	39		2		6	28		1		26.	44	84.
Iron and Dickinson	30	6	21	27		2	1	2	7	4	8	4	17	35	45.7
Isabella	117	17	80	97		1	5	13	55	2	20	9	90	123	61.7
Isle Royal															
Jackson	262	60	165	225	2	14	8	30	125	2	90	40	180.	421	43.
Kalamazoo	236	25	145	170	2	2	4	26	88		48	10	121.	333	36.6
Kalkaska	58	11	50	61		1	4	1	39		13	2	52.	57	77.
Kent	562	44	229	273		1	4	22	164	1	100	13	181.	772	24.8
Keweenaw	10	13	28	41		1	4	2	7		30	2	22.	20	70.
Lake	51	4	26	30		2		3	16	1	9	2	19.8	45	48.4
Lapeer	182	29	111	140		1	6	5	101		42	6	112.	220	51.3

TABLE XXI.—CONTINUED.

Counties.	No. of teachers required to supply the schools.	No. enrolled.			Kinds and grades of certificates held by members.						No. without experience in teaching.	No. having received Normal instruction.	Average attendance each half day.	No. of legally qualified teachers in county.	Percentage of whole No. of teachers that attended institutes.
		Men.	Woman.	Total.	State.	Normal.	First.	Second.	Third.	Special.					
Leelanau	58	3	29	32	----	----	----	2	20	----	10	1	26.6	72	30.5
Lenawee	291	48	134	182	----	1	4	12	128	----	42	10	57.5	474	30.5
Livingston	163	37	108	145	1	----	5	11	109	----	29	23	82.	270	46.6
Luce	11	5	21	26	----	1	5	2	7	----	12	3	20.8	18	83.3
Mackinac	46	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Macomb	161	23	44	67	----	----	6	8	42	----	11	2	52.9	175	32.
Manistee	123	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Manitou	4	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Marquette	141	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Mason	103	8	47	55	----	----	2	4	36	----	13	----	45.	77	54.5
Mecosta	128	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Menominee	77	2	25	27	----	----	2	5	16	----	4	3	21.5	49	46.9
Midland	77	7	74	81	----	1	4	5	44	1	23	3	70.	113	48.6
Missaukee	52	5	22	27	----	----	3	3	19	----	6	----	18.3	60	51.6
Monroe	173	41	128	169	----	2	5	11	113	3	36	34	95.	220	60.9
Montcalm	203	11	58	69	1	----	2	2	50	----	16	3	57.	248	22.1
Montmorency	16	10	24	34	----	----	1	----	19	----	14	----	29.3	27	74.
Muskegon	235	18	69	87	----	1	7	3	39	----	37	8	63.	224	22.3
Newaygo	130	12	46	58	----	----	3	6	41	----	14	1	44.8	221	22.6
Oakland	282	17	79	96	1	----	2	4	88	1	8	21	44.5	361	26.5
Oceana	103	33	71	104	----	----	3	11	66	----	33	5	83.	125	64.
Ogemaw	47	9	42	51	----	----	3	4	27	----	14	----	41.	37	91.8
Ontonagon	20	3	28	31	----	2	3	1	11	6	8	3	25.8	31	74.1
Osceola	119	12	40	52	----	----	5	4	33	----	14	----	37.6	125	33.6
Oscoda	27	4	18	22	----	----	----	1	16	----	5	1	19.2	23	73.9
Otsego	47	9	43	52	----	----	2	1	30	1	17	----	47.5	62	54.9
Ottawa	196	30	95	125	----	----	6	23	50	1	45	2	95.3	215	37.2
Presque Isle	35	20	8	28	----	----	1	1	5	6	15	----	27.	----	----
Roscommon and Crawford	18	5	26	31	----	1	----	2	11	----	19	1	18.8	15	93.3
Saginaw	----	15	211	226	4	1	206	2	14	----	2	----	217.	*227	100.
	396	43	151	194	----	----	7	15	123	----	59	2	140.		63.8
St. Clair	241	14	131	145	1	2	1	4	137	----	50	8	111.	310	62.5
St. Joseph	183	45	99	144	1	1	3	13	92	----	48	16	71.	290	37.9
Sanilac	165	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Schoolcraft	31	5	30	35	----	1	3	3	24	----	8	2	25.4	37	83.7
Shiawassee	189	19	74	93	1	----	2	3	63	----	28	5	56.	220	31.3
Tuscola	179	40	108	148	----	2	14	19	98	----	43	9	113.	344	38.6
Van Buren	205	32	82	114	2	2	9	15	77	1	22	3	77.	269	39.4
Washtenaw	272	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wayne	826	27	681	708	1	5	12	5	53	523	15	18	600.	*620	96.6
Wexford	100	9	52	61	----	----	1	3	37	1	19	1	48.5	115	36.5

* City teachers.

TABLE XXII.—*List of school commissioners and county examiners for 1893-94.*

[The first named in each county is commissioner.]

County.	Name.	Postoffice.	Occupation.
Alcona	J. G. Burridge	Black River	Teacher.
	E. Gaheen	W. Harrisville	Teacher.
	J. W. Talmie	Alcona	Teacher.
Alger	Julia O'Keefe	Au Train	Teacher.
	Mrs. E. F. Hoffman	Onota	Housekeeper.
	W. J. Hammond	Munising	Teacher.
Allegan	J. W. Humphrey	Wayland	Teacher.
	Mrs. D. V. Pearsel	Plainwell	Housekeeper.
	Benj. Neerken	Graafschap	Teacher.
Alpena	James A. Case	Alpena	Farmer.
	L. S. Norton	Alpena	Teacher.
	Joseph Cavanaugh	Alpena	Lawyer.
Antrim	H. C. Lott	Bellaire	Teacher.
	A. J. Chappell	Alba	Teacher.
	F. M. Severance	East Jordan	Farmer.
Arenac	Julia A. Inglis	Sterling	Teacher.
	M. F. Parker	Standish	Merchant.
Baraga	A. L. Wilkins	Maple Ridge	Teacher.
	M. J. McKanna	Baraga	Teacher.
	Miss Mollie O'Connor	L'Anse	Teacher.
Barry	M. J. McCabe	L'Anse	Lumberman.
	Enoch Andrus	Hastings	Teacher.
	Harry B. Andrus	Nashville	Teacher.
Bay	D. C. Warner	Dowling	Farmer.
	C. W. Hitchcock	Bay City	Teacher.
	M. R. Hartwell	South Bay City	Teacher.
Benzie	J. G. Lamson	West Bay City	Teacher.
	Z. F. McGee	Benzonia	Teacher.
	Mrs. E. K. Laflin	Frankfort	Teacher.
Berrien	Mary A. Palmer	Thompsonville	Housekeeper.
	Ernest P. Clark	St. Joseph	Teacher.
	R. H. Struble	Watervliet	Teacher.
Branch	C. B. Groat	Niles	R'd F'r & T'r.
	D. A. Teller	Coldwater	Com'r.
	A. R. Bonny	Gilead	Farmer.
Calhoun	W. H. Grove	Burr Oak	Teacher.
	A. G. Randall	Tekonsha	School W'r.
	E. L. McPherson	Burlington	Postmaster.
Cass	F. W. Arbury	Battle Creek	Teacher.
	C. E. Cone	Cassopolis	Teacher.
	Hattie Graham	Union	Teacher.
Charlevoix	Geo. A. Shetterley	Edwardsburg	Teacher.
	F. H. Ranney	East Jordan	Bookkeeper.
	Wm. Harris	Norwood	Farmer.
Cheboygan	A. W. Chew	Bay Shore	Teacher.
	D. J. Galbraith	Cheboygan	Teacher.
	G. S. Moore	Cheboygan	Teacher.
Chippewa	Frank Patridge	Cheboygan	Teacher.
	P. T. Rowe	Sault Ste. Marie	Clergyman.
	Wm. J. McGinnis	Rudyard	Teacher.
Clare	A. J. Campbell	Sault Ste. Marie	Physician.
	H. M. Roys	Farwell	Druggist.
	A. R. Canfield	Harrison	Editor.
Clinton	F. A. Carncross	Dover	Farmer.
	R. M. Winston	St. Johns	Teacher.
	E. M. Plunkett	Ovid	Teacher.
Crawford	J. B. Stone	De Witt	Teacher.
	W. F. Benkelman	Grayling	Teacher.
	J. O. Hicks	Frederic	Teacher.
Delta	Mrs. E. Cobb	Frederic	Teacher.
	A. P. Smith	Gladstone	Attorney.
	Margaret Fleming	Escanaba	Teacher.
Dickinson	Peter R. Legg	Garden	Teacher.
	E. L. Parmenter	Iron Mountain	Lumberman.
	E. F. Abernethy	Iron Mountain	Teacher.
Eaton	S. B. Tobey	Norway	Teacher.
	J. L. Wagner	Charlotte	Teacher.
	T. A. Conlon	Eaton Rapids	Teacher.
Emmet	Chas. McKinny	Olivet	Teacher.
	Abbie Roe	Harbor Springs	Teacher.
	A. D. Metz	Harbor Springs	Clerk.
Genesee	A. C. Willis	Pleasant View	Farmer.
	A. E. Ransom	Flushing	Publisher.
	J. H. Tyler	Davison	Teacher.
Gladwin	Annie Coghlin	Navou	Teacher.
	T. G. Campbell	Gladwin	Attorney.
	W. A. Stevenson	Gladwin	Teacher.

TABLE XXII.—CONTINUED.

County.	Name.	Postoffice.	Occupation.
Gogebic	L. L. Wright	Ironwood	City Supt. Sch'ls.
	J. W. Whiteside	Bessemer	Physician.
	J. H. Eddy	Wakefield	Physician.
Grand Traverse	Geo. W. McWethy	Beitner	Teacher.
	E. O. Ladd	Old Mission	Teacher.
	C. T. Grawn	Traverse City	Teacher.
Gratiot	O. G. Tuttle	Ithaca	Teacher.
	J. M. McCall	Ithaca	Editor.
	W. M. Coon	Ashley	Teacher.
Hillsdale	W. H. French	Hillsdale	Teacher.
	E. D. Reynolds	North Adams	Teacher.
	S. J. Gier	Hillsdale	Teacher.
Houghton	Wm. Bath	Houghton	Bookkeeper.
	Thos. Dooling	Hancock	Probate Judge.
	A. T. Streeter	Calumet	Lawyer.
Huron	E. Baskin	Ubly	Teacher.
	G. T. Hughes	Pinnebog	Teacher.
Ingham	W. W. Weeks	Aurelius	Teacher.
	C. E. Bird	Leslie	Teacher.
	W. J. McKone	Mason	Teacher.
Ionia	E. A. Murphy	Ionia	Teacher.
	L. B. Hall	Belding	Teacher.
Iosco	A. C. Kay	East Tawas	
	J. K. Osgerby	East Tawas	Teacher.
Iron	C. W. Mickens	Crystal Falls	Teacher.
	E. P. Lott	Iron River	Lawyer.
	M. R. Parmelee	Iron River	Teacher.
Isabella	Fred Bellinger	Mt. Pleasant	Com'r.
	Jas. Lyons	Ann Arbor	Student.
	O. L. Burdick	Ypsilanti	Student.
Jackson	W. H. Maybee	Grass Lake	Teacher.
	D. E. Haskins	Jackson	Farmer.
	E. N. Palmer	Brooklyn	Physician.
Kalamazoo	Ashley Clapp	Kalamazoo	Teacher.
	W. E. Conklin	Galesburg	Teacher.
	J. W. Hazard	Fulton	Teacher.
Kalkaska	Bertha Whipple	Kalkaska	Teacher.
	J. D. Dagle	South Boardman	Merchant.
	J. W. Morley	Mossback	Teacher.
Kent	A. Hamlin Smith	Grand Rapids	Teacher.
	G. T. Chapel	Sand Lake	Teacher.
	E. A. Carpenter	Grand Rapids	Teacher.
Keweenaw	Alfred Nichols	Central Mine	Teacher.
	Wm. T. Kidd	Allouez	Teacher.
	Wm. H. Lyon	Eagle Harbor	Teacher.
Lake	E. G. Johnson	Baldwin	County Clerk.
	Homer Cutler	Luther	Farmer.
	A. U. Smith	Chase	Farmer.
Lapeer	C. E. Palmerlee	Lapeer	Teacher.
	F. W. Weston	North Branch	Teacher.
	L. H. Peck	Attica	Teacher.
Leelanau	E. J. Peck	Suttons Bay	Teacher.
	G. W. Benjamin	Omena	Teacher.
	W. S. Crowell	Maple City	Teacher.
Lenawee	C. F. Field	Tecumseh	Publisher.
	H. W. Daniels	Clinton	Teacher.
	Willard Stearns	Adrian	Publisher.
Livingston	Stephen Durfee	Fowlerville	Teacher.
	M. A. Avery	Parshallville	Farmer.
	J. H. Wallace	Dansville	Teacher.
Luce	A. D. Chisholm	Newberry	Teacher.
	A. W. Nicholson	Newberry	Doctor.
	F. W. Greenfield	McMillan	Farmer.
Mackinac	D. H. Stringham	Viola	Bookkeeper.
	G. H. Bobier	St. Ignace	Clerk.
	Chas. Chambers	St. Ignace	Merchant.
Macomb	S. B. Russell	Mt. Clemens	Journalist.
	R. J. Crawford	Richmond	Teacher.
	E. Wilcox	Washington	Teacher.
Manistee	L. L. Finch	Arcadia	Farmer.
	H. A. Danville	Manistee	Teacher.
	M. S. Howes	Marilla	Farmer.
Manitou	J. P. Malony	St. James	Teacher.

TABLE XXII.—CONTINUED.

County.	Name.	Postoffice.	Occupation.
Marquette	J. B. Montgomery	Beacon	Teacher.
	F. D. Doner	Negaunee	Teacher.
	A. E. Sterne	Clarksburg	Teacher.
Mason	Effie G. Huston	Ludington	Com'r.
	Emma Barnes	Sugar Grove	Teacher.
	O. S. Mills	Fountain	Farmer.
Mecosta	P. M. Brown	Big Rapids	Com'r.
	R. P. Dennis	Stanwood	Teacher.
	Arthur Butler	Sylvester	Teacher.
Menominee	J. W. Bird	Menominee	Lumberman.
	Wayne Simmons	Stephenson	Teacher.
	C. M. Case	Hermansville	Bookkeeper.
Midland	Melinda L. Mills	Midland	Teacher.
	F. A. Towsley	Midland	Doctor.
	C. L. Jenney	Midland	O'r S. C. & C.
Missaukee	Georgia Roche	Lake City	Teacher.
	Duncan McBain	McBain	Teacher.
	C. L. Goll	Lake City	Teacher.
Monroe	T. E. Allen	Carleton	Teacher.
	C. A. Maurer	Monroe	Teacher.
	John Hayward	Morocco	Teacher.
Montcalm	A. N. Demoray	Edmore	Teacher.
	Eugene Straight	Howard City	Teacher.
	A. L. Bemis	Carson City	Printer.
Montmorency	Tillson Babcock	Godfrey	Teacher.
	Thos. Double	Vienna	Teacher.
	Geo. Crawford	Atlanta	Co. Reg. Deeds.
Muskegon	J. O. Reed	Whitehall	Teacher.
	H. H. Barton	North Muskegon	Teacher.
	H. B. Carr	Whitehall	Teacher.
Newaygo	John Harwood	White Cloud	Lawyer.
	Tyson Smith	Newaygo	Physician.
	David Robertson	Hesperia	Teacher.
Oakland	H. H. Snowdon	Pontiac	Teacher.
	Chas. P. Grow	Pontiac	Merchant.
	L. N. Brown	Clarkston	Lawyer.
Oceana	D. E. McClure	Shelby	Teacher.
	C. W. Hills	Pentwater	Teacher.
	G. C. Myers	Cranston	Farmer.
Ogemaw	Ben Bennett	West Branch	Teacher.
	Flora McDonald	West Branch	Teacher.
	H. S. Karcher	Rose City	Merchant.
Ontonagon	Anson Shuster	Ontonagon	----------
	A. C. Adair	Rockland	Teacher.
	J. E. Thwaites	Ewen	Teacher.
Osceola	O. B. Stark	Hersey	Farmer.
	E. N. Pitkin	Hersey	Teacher.
	J. H. Thompson	Evart	Teacher.
Oscoda	Stewart Gorton	Luzerne	Farmer.
	D. W. Blakely	Luzerne	Teacher.
	C. G. Carr	Fair View	Teacher.
Otsego	F. W. Cogswell	Vanderbilt	Teacher.
	B. L. Caukin	Elmira	Teacher.
	R. D. Bailey	Gaylord	Teacher.
Ottawa	Cora M. Goodenow	Berlin	Teacher.
	Seth Coburn	New Holland	Teacher.
	Leonard Rens	Noordeloos	Teacher.
Presque Isle	Griffin Covey, Jr.	Rogers City	----------
	W. E. Rice	Rogers City	----------
	H. L. Parris	Rogers City	----------
Roscommon	Irvin Chase	Roscommon	Druggist.
	Frank Converse	Roscommon	County Clerk.
	A. B. Payne	Roscommon	Drug Clerk.
Saginaw	M. T. Dodge	Saginaw, E. S.	Teacher.
	J. A. F. Strieter	Frankenmuth	Teacher.
	Wm. H. Lewis	Saginaw, W. S.	Teacher.
St. Clair	R. B. Fairman	Port Huron	Teacher.
	E. F. Law	Port Huron	Lawyer.
	Peter Ward	Port Huron	Teacher.
St. Joseph	John Evart	Mendon	Teacher.
	H. C. Wilson	Paw Paw	Teacher.
	D. L. Hazen	Colon	----------
Sanilac	F. J. Battersbee	Croswell	Teacher.
	H. A. Macklem	Marlette	Teacher.
	J. M. Bostwick	Minden	Teacher.
Schoolcraft	Mrs. Jennie Putnam	Manistique	Lawyer.
	C. W. Dunton	Manistique	----------
	Mrs. Nellie Mersereau	Manistique	----------

TABLE XXII.—CONCLUDED.

County.	Name.	Postoffice.	Occupation.
Shiawassee	Hudson Sheldon	Corunna	Teacher.
	J. W. Simmons	Owosso	Teacher.
	E. D. Dimond	Laingsburg	Teacher.
Tuscola	T. J. Reavey	Caro	Teacher.
	P. G. Davis	Mayville	Teacher.
	F. L. Morford	Unionville	Teacher.
Van Buren	J. A. O'Leary	Hartford	Teacher.
	H. J. Slonaker	Gobleville	Teacher.
	F. C. Penoyer	Bangor	Teacher.
Washtenaw	M. J. Cavanaugh	Ann Arbor	Teacher.
	W. W. Wedemeyer	Ann Arbor	Teacher.
	G. H. Pond	Ann Arbor	Teacher.
Wayne	J. A. Sinclair	Detroit	----------
	T. H. Rutter	Romulus	----------
	E. W. Yost	Dearborn	----------
Wexford	G. E. Herrick	Cadillac	Lumbermen.
	A. H. Callis	Manton	Farmer.
	Frank Augwim	Cadillac	Teacher.

TABLE XXIII.

General statistics of State and incorporated institutions, compiled from reports of officers for the academic year 1892-3.

Name of institution.	Location.	Name of president or superintendent.	Date of organization.	No. of instructors.	No. of students or (inmates) during the year.	No. of graduates at last commencement.	Whole No. of graduates since founded.	No. of volumes in library.	No. of volumes added to library during the year.
State:									
University of Michigan	Ann Arbor	James B. Angell	1837	101	2,788	731	12,186	100,000	3,500
Agricultural College	Lansing	O. Clute	1855	44	354	31	579	15,621	662
State Normal School	Ypsilanti	J. M. B. Sill	1852	37	937	168	2,322	13,600	1,057
Mining School	Houghton	M. E. Wadsworth	1886	8	101	8	30	8,908	813
School for the Blind	Lansing	John Fanning	1881	9	77	4	13	1,995	128
School for the Deaf	Flint	Francis D. Clark	1854	18	294	7	218	3,073	350
State Public School	Coldwater	J. C. Pierce	1874	6	394	----------	----------	1,905	----------
Industrial School for Boys	Lansing	J. E. St. John	1855	15	707	----------	----------	3,000	337
Industrial Home for Girls	Adrian	Lucy M. Sickels	1879	8	287	----------	----------	1,000	----------
Incorporated:									
Academy of the Sacred Heart	Detroit	Augusta Pardow	1850	10	85	----------	----------	2,000	10
Adrian College	Adrian	J. F. McCullock	1859	11	146	12	377	6,000	20
Akeley Institute	Grand Haven	Geo. D. Gillespie	1888	9	49	----------	9	800	35
Alma College	Alma	A. F. Bruske	1886	16	152	8	15	12,336	836
Battle Creek College	Battle Creek	W. W. Prescott	1874	30	768	27	157	3,000	----------
Benzonia College	Benzonia	S. B. Harvey	1863	9	100	----------	----------	4,300	300
Detroit College	Detroit	M. P. Dowling	1877	16	293	11	79	8,350	200
Detroit Home and Day School	Detroit	J. D. Liggett	1878	14	178	12	113	900	25
Evelyn Industrial Institute	Manistee	Emma Obenauer	1891	4	32	----------	----------	454	150
German American Seminary	Detroit	G. Herrmann	1860	5	215	----------	----------	350	25
Hillsdale College	Hillsdale	Geo. F. Mosher	1855	28	400	15	767	8,504	372
Holland Christian Reformed Seminary	Grand Rapids	G. K. Hempkes	1876	4	52	4	41	500	35
Hope College	Holland								
Kalamazoo College	Kalamazoo	A. G. Slocum	1855	11	231	2	184	5,792	500
Michigan Female Seminary	Kalamazoo	Miss Kate Marie Alling	1856	11	53	8	----------	2,000	----------
Military Academy	Orchard Lake	J. Sumner Rogers	1877	9	157	24	317	1,500	100
Olivet College	Olivet	W. G. Sperry	1859	20	200	17	345	25,000	1,000
Raisin Valley Seminary	Adrian	John M. Hill	1849	3	61	5	117	400	----------
St. Mary's Academy	Monroe	Mother M. Clotilda	1862	21	165	2	52	2,541	50
Spring Arbor Seminary	Spring Arbor	A. H. Stilwell	1872	4	100	6	78	450	50

TABLE XXIV.

Financial statistics of State and incorporated institutions, compiled from reports of officers for the academic year 1892-3.

Name of institution.	Annual cost of tuition per student.	Average cost of board per week.	Total average cost per student (to the student).	Total average cost per student (to the State).	Estimated value of grounds, buildings, apparatus, etc.	Amount of productive funds.	Income from productive funds.	Amount of legislative appropriation for the year 1893.	Receipts from tuition fees during the year.	Receipts from all other sources.	Current expenses for the year.	Expenses for permanent improvements.	Liabilities.
State:													
University of Michigan	$35 00	a $4 50	$220 00	$46 00	$1,356,746 00	$545,946 47	$38,500 00	$97,200 00	$122,357 56	$20,230 18	$331,615 95	$25,263 36	
Agricultural College	b 15 00	2 50	125 00	50 00	455,000 00	521,702 70	31,948 12	16,862 50	260 00	32,990 51	54,217 64	16,500 00	
State Normal School	10 00	2 25	150 00		238,968 12	70,000 00		50,260 00	6,308 00	758 85			
Mining School		a 5 00	395 00	368 36	178,597 54			37,500 00		1,313 66	38,200 70	5,207 70	$3,362 39
School for the Blind				246 86	221,485 71			26,000 00	120 00	3,913 06	20,482 70		
School for the Deaf	41 66	1 05		179 71	494,133 53			57,000 00		7,952 20	52,885 14		
State Public School				283 42	227,816 22			35,000 00		311 72	58,100 97	797 35	
Industrial School for Boys		69		133 53	266,287 61			56,000 00			65,225 79	500 00	
Industrial Home for Girls	8 36			130 70	171,629 38			35,000 00		2,868 64	37,519 41	3,211 44	
Incorporated:													
Academy of the Sacred Heart	60 00								3,500 00				
Adrian College	28 50	2 00	175 00		100,000 00	50,000 00	3,000 00		3,000 00	4,000 00	10,500 00	25 00	27,500 00
Akeley Institute			136 63		100,000 00	2,000 00	120 00			7,585 84	7,585 27	12,000 00	13,000 00
Alma College	30 00	2 00	140 00		88,000 00	81,000 00	4,800 00		2,700 00	13,500 00	16,000 00	1,300 00	
Battle Creek College	35 00	2 75			109,117 59				6,159 94	25,204 88	32,198 59	5,000 00	46,632 94
Benzonia College	12 00	1 75	118 00		15,000 00	40,000 00	2,300 00		800 00	1,000 00	4,300 00		3,000 00
Detroit College	40 00		c 40 00		160,000 00				8,000 00		8,000 00		60,000 00
Detroit Home and Day School	100 00	12 00			50,000 00				9,072 16	15,297 31	24,296 79		
Evelyn Industrial Institute	d 75 00		75 00	e 100 00	10,800 00		2,000 00		305 00	1,000 00	3,650 00	1 30	
German American Seminary	15 00				20,000 00				1,800 00	250 00	1,950 00	150 00	5,300 00
Hillsdale College	1 50	2 00	175 00		91,252 63	200,000 00	12,027 68		31 25	3,312 70	16,897 93	1,000 00	100 00
Holland Christian Reformed Seminary	26 00	3 50	160 00		30,000 00	2,000 00	140 00		775 00	6,154 81	5,181 42		6,800 00
Hope College													
Kalamazoo College	25 50	2 35			60,000 00	222,766 70	10,662 47		4,076 79	1,701 80	17,659 95	1,503 98	
Michigan Female Seminary	200 00	4 00	200 00		75,000 00	5,000 00	1,000 00		9,154 00	283 00	12,000 00		
Military Academy	450 00		450 00		350,000 00								
Olivet College	30 00	2 00	225 00		174,273 96	83,969 57	6,542 61		3,420 25	3,800 00	36,797 46	2,000 00	11,104 22
Raisin Valley Seminary	24 00	2 00	150 00		15,000 00	20,500 00	1,676 50		1,374 70	35 00	3,056 96	250 10	
St. Mary's Academy	20 00	2 50	120 00		92,567 00				e 17,735 62	3,191 23	17,991 53	2,192 99	
Spring Arbor Seminary	18 00	3 00	150 00		10,000 00				1,200 00	1,200 00	50 00	50 00	50 00

a Board and room.
b To non-residents of the State only.
c Includes tuition only.
d Covers all expenses.
e Includes board and tuition.

REV. JOHN DAVIS PIERCE.

When the first Michigan legislature convened, not the least of the many important matters to come before it was the subject of education. For more than a year this matter had been under careful consideration by the framers of our State Constitution, and on July 26, 1836, an act was passed providing for the appointment of a Superintendent of Public Instruction. That John D. Pierce should be selected to fill this most important position was a natural consequence, as he was a man of rare judgment and ability, who was known to have made a careful study of the so-called Prussian system, upon the principles of which our Constitution is based. He was thus especially well fitted to cope with the many difficulties attending the preparation of a system that must provide not only for the common schools, but also for a university and its branches; and the plans he presented to the legislature of 1837 were accepted without a dissenting voice.

He was born at Chesterfield, N. H., February 18, 1797, and the story of his life is familiar to many. How he lived with a paternal uncle in Worcester, Mass., from the age of two years to twenty, receiving not more than eight weeks schooling in any year; how he then became a farm laborer until he had saved his first hundred dollars, when his Grandfather Pierce increased his little hoard by another hundred; how he was thus enabled to carry out a plan to fit himself for college, and on December 14, 1817, walked fourteen miles to take his first Latin lesson of Rev. Enoch Pond, who became his tutor; how he entered Brown university the next fall and, though obliged to teach three months of every year for his maintenance, still managed to graduate in 1822, among the first eight of a class of thirty-six.

His long and useful life-work thus began when he was twenty-five, and his first position was that of principal of the academy at Wrentham, Mass. After a year spent here, he entered Princeton Theological Seminary and the year following was licensed by the Congregational Association, accepting the pastorate of a church in Oneida Co., N. Y. Here he labored four years, then became principal of an academy at Goshen, Conn., finally coming to Marshall, Mich., in the spring of 1831, to work as Home Missionary. It was after five years of zealous labor in this field that he received the appointment of State Superintendent, and for another five years he served the State of his adoption with unswerving zeal and fidelity. In 1842 he resumed his work in the ministry and in 1847 was sent to the State legislature as representative from Calhoun county, where he was instrumental in securing the passage of several important measures, among which was the homestead exemption law (the first one of the kind ever enacted in the United States), and also the resolution instructing the Michigan delegation in the National Congress to oppose the introduction of slavery into the territories. His influence was also felt in the convention that framed the new Constitution of 1850, and it was he who secured the incorporation of the provision for free public schools.

In 1852 he removed to Ypsilanti, where he resided for the next thirty years, much of the time engaged in the ministry. During this period, the genial countenance of "Father Pierce" was often welcomed at teachers' gatherings and Commencement exercises. In 1880 a long illness so impaired his health that he went to Waltham, Mass., the present home of his daughter, Mrs. Mary A. Emerson, hoping to be benefited by the bracing New England air. Here he spent two uneventful years, the monotony of his life being only once broken, which occasion was a reunion of the New England alumni of Michigan university, held at Boston, April 5, 1882. In spite of much weakness and pain, he entertained this assembly with a recital of his experiences in connection with their *alma mater;* but his effort was like the last flicker of an expiring candle, and six weeks later his lifeless body was brought back to the scene of his earthly labors and laid to rest in the cemetery at Marshall, the large concourse at his funeral attesting the universal respect in which he was held.

FRANKLIN SAWYER, JR.

FRANKLIN SAWYER, JR.

The task of carrying on the educational system so well inaugurated by the first Superintendent of Public Instruction, fell to a young Bostonian who graduated at Harvard in 1830, and came to Detroit the following year, becoming a student in the office of Gen. Charles Larned, then one of Michigan's leading lawyers. From the very first, Franklin Sawyer occupied a prominent position in the literary circles of Detroit and was one of the founders, as also the first president, of the Young Men's Society, organized in 1833. He practiced law only a short time, but in the fall of 1831 became editor of the *Courier*, afterwards one of its proprietors. Being a brilliant and forcible writer as well as a public spirited man, the young editor made his influence widely felt in all the questions of public policy then agitating the State and nation. His connection with the *Courier* continued during the several years in which it was successively known as the *Journal and Courier*, the *Journal and Advertiser*, and finally the *Daily Advertiser*, the predecessor of the present *Detroit Tribune*.

In 1841-2 he served as Superintendent of Public Instruction, and it is said that no man who has filled this responsible position ever brought to it higher ability or more zeal in the discharge of its duties. He traveled extensively throughout the State, and through personal visitation of all the educational institutions, and by acquaintance with the inhabitants of remote districts, soon became cognizant of all the defects and needs of the entire school system, at the very period when its affairs most required wise and skillful administration. In one place he found that several schools were taught in French, and he immediately promulgated the following principle of action, whose truth is just as forcible today as when it was uttered: "It is the undoubted policy of every State in the Union to frame a system of public instruction so as not only to educate its own native born children, but to Americanize, both in intellect and feeling, every child of foreign stock that, in the providence of God, is brought to our shores to become a part of its society. No encouragement should be given to parents constituting a portion of our republic, under such circumstances, to educate their offspring through any other medium than the common language; but, on the contrary, all conceivable inducements should be held out for them to keep their children in the common schools, where they may learn to think in that language, and by frequent intercourse with their fellow citizens, forget—not the land of their nativity—but the necessity of their mother tongue as a medium of communication between man and man, in a country which they have adopted for life and whose institutions they should wish to leave safely in the hands of their posterity."

Not long after the expiration of his term of office, on account of poor health, Mr. Sawyer removed to New Orleans, and became editor of the New Orleans *Topics*, afterwards acting as superintendent of the city schools. Several years later he returned to Boston where, in 1851, his useful career was terminated. Thus the brilliant young lawyer, journalist, and educator, cut down in life's prime, became another illustration of the saying, "How long we live not words, but actions tell," for his life has left an indelible impress on the pages of Michigan history.

OLIVER C. COMSTOCK.

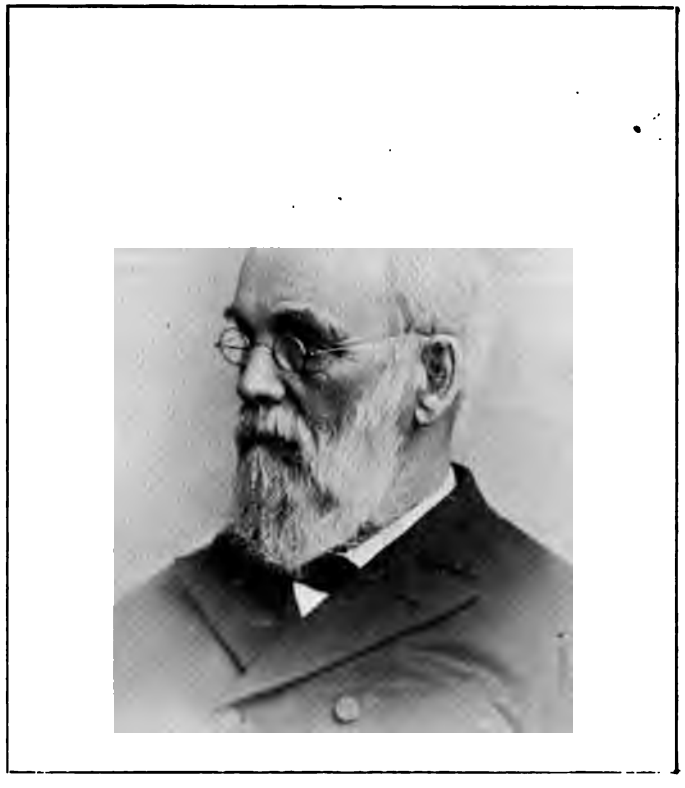
OLIVER CROMWELL COMSTOCK.

The third incumbent of the office of Superintendent of Public Instruction was a dignified and scholarly man already past life's prime, whose judgment was fully ripened by the experiences of an eventful life. Dr. Comstock was born in Warwick, Kent Co., Rhode Island, March 1, 1781. His father, Hon. Adam Comstock, was a lieutenant colonel in the Revolutionary war and was counted among the most influential men of his day. At the close of the war, Col. Comstock settled temporarily in Schenectady, N. Y., for the sake of educating his children, and young Oliver made such good use of his advantages that he was early counted a thorough student. Upon the completion of his common school course, he entered the New York City College of Physicians and Surgeons and won a degree. In 1805 he settled in Cayuga Co., where he not only practiced medicine but also spent his spare time in the study of law and soon gained admission to the county bar.

Like his honored father, he early took great interest in public affairs and was member of the Assembly from Seneca Co., N. Y., from 1810 to 1812; judge of Seneca Co. in 1812, and government commissioner to help settle the claims of the sufferers on the Niagara frontier, at the close of the war of 1812; the first judge of Tompkins Co., in 1817; and three times sent to Washington, D. C., as member of the House of Representatives. In 1820, while in Washington, he was received into the Baptist church and ordained a minister of the same; but, upon retiring from Congress, he returned to Trumansburg, Tompkins Co., N. Y., and resumed the practice of medicine. Here he remained until 1828, and during this period succeeded in organizing churches at both Trumansburg and Ithaca. Becoming gradually more interested in the spiritual than the physical welfare of mankind, in 1828 he gave up the practice of medicine to accept a call as pastor of a church in Rochester, in which field he labored so untiringly for the next six years that, in 1834, his failing health caused him to resign his charge and seek rest in travel. Visiting Washington, he was elected chaplain of the House of Representatives and served one term, then became pastor of the First Baptist churth at Norfolk, Virginia, for two years, and finally accepted a call from a church in Detroit, afterward acting as supply to churches in Ann Arbor, Jackson, Marshall and Coldwater.

In 1843 he received his appointment as Superintendent of Public Instruction and for two years gave his whole attention to the work, his rich and varied experience, his broad knowledge of humanity in general, his commanding and magnetic presence, all combining to aid him in the efficient discharge of his official duties. His last public trust was in 1849, when he represented Branch Co. in the State Legislature; and he at length retired to the quiet of his son's home at Marshall, Mich., where he died January 11, 1860, leaving behind the record of one whose versatile genius had made him prominent in medical and educational circles, on the judicial bench, and in legislative halls, yet whose integrity had truly kept him unspotted from the world. Judge Shearman, one of his successors, says of him, "He was endowed by Heaven with the gift of a great intellect; the same benignant power gave him also a great heart which was ever filling up and running over with sympathetic love for the whole human race."

His name is perpetuated by his son, O. C. Comstock, a worthy descendant now living at Brookline, Mass, at an advanced age.



IRA MAYHEW.

IRA MAYHEW.

The fourth Superintendent of Public Instruction was born at Ellisburg, Jefferson Co., N. Y., in 1814, being the fourth one of seven children born to Wadsworth Mayhew and Anna Cooper Mayhew. Having gained a good common school education at Union Academy, Belleville, at the age of eighteen he was employed as teacher in his native district. After two very successful terms, he journeyed to Detroit, Michigan, and Perrysburg, Ohio, spending a year in teaching and surveying. Returning, he resumed the work of teaching, but at the youthful age of twenty-two found his health so impaired that he took an ocean voyage to the Banks of Newfoundland to regain it. Having again taken up the work of teaching, in 1839 he received the appointment of common school visitor in his native Co., doing such effective work that the first provision ever made in this country for a County Superintendent of Schools occurred in this county a year later, and Ira Mayhew was the chosen incumbent.

In 1844 he came with his family to Monroe, Mich., where his ability and talents were soon recognized, he being given charge of the Monroe branch of our State University, and in 1845 receiving the appointment of Superintendent of Public Instruction, retaining this position until 1849. At this early day the work of the university was chiefly academic and no class had yet been graduated. There was neither union nor normal school in Michigan, and no teacher's institutes had ever been held. Supt. Mayhew at once decided that his chief duty was to awaken a general interest in educational matters throughout the State. The only railroads in Michigan at this time were the M. C., extending from Detroit to Marshall; the M. S., from Toledo to Hillsdale, and the D. & M., from Detroit to Pontiac. Consequently, he was often compelled to travel on horseback, and during one six weeks' tour rode at least 500 miles, filling almost daily appointments. He also arranged a series of institutes entirely without State aid, and succeeded in arousing such enthusiasm that teachers came from a distance of fifteen or twenty miles in ox carts, and even on foot. During his term of office, he dedicated at Jonesvile the first union schoolhouse built in Michigan, and also aided in organizing the first public school of the Upper Peninsula.

In January, 1849, having delivered in Representative Hall a series of lectures on Education and the Michigan School System, the House and Senate passed a resolution inviting him to publish a book on this subject, and he devoted the following year to this work, his book being entitled, "Means and Ends of Universal Education." He afterward published such a practical elementary work on bookkeeping that it was largely instrumental in introducing this branch into our common school curriculum. In 1853 he became principal of Albion seminary, resigning this position in 1855 to resume the duties of State Superintendent, which he faithfully discharged for four years more. In 1859 he engaged in private business for a brief time, but in 1860 organized and took charge of the Albion commercial college, and for the next four years not only conducted this institution, but also prepared an advance work on bookkeping, besides being internal revenue collector for the third district of Michigan from 1862 to 1865. In 1867 he removed his business college to Detroit and continued in charge of it until 1883, when he sold his interest and turned his attention to a third work on bookkeeping, which should furnish a strong, short course for graded and high schools. This was published in 1885, and three years later another work on the same subject, designed for the college and counting room, attracted very favorable notice. Indeed, his valuable educational publications gained for him the degree of LL. D.

Prof. Mayhew retained his remarkable physical and intellectual powers to the last, being in charge of the bookkeeping department of Sprague University in Detroit at the time of his death, which occurred from heart failure, April 8, 1894. He had but recently celebrated his eightieth birthday, at which time he must have looked upon Michigan's magnificent school system with pardonable pride at thought of the strong impulse given to it by his own early labors.

FRANCIS W. SHEARMAN.

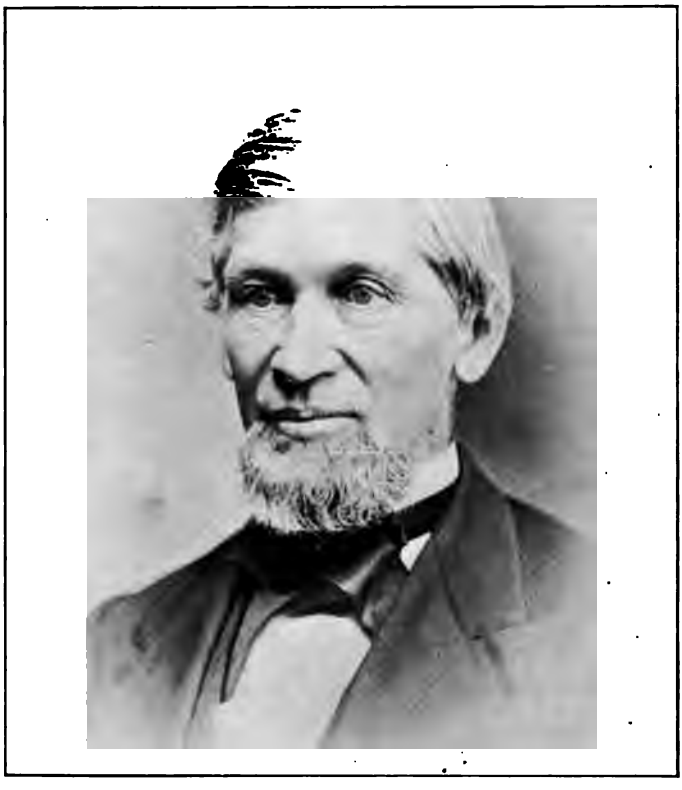
FRANCIS WILLETT SHEARMAN.

Vernon, Oneida county, N. Y., was the birth-place of the fifth Superintendent of Public Instruction, who was born June 20, 1817, the second son of Willett H. and Catherine Shearman. In his sixteenth year he entered the sophomore year of Hamilton college, graduating therefrom in 1836 with the highest honors of his class. The celebrated Indian agent, Henry R. Schoolcraft, was his uncle; and, shortly after graduation, young Shearman was employed by him as assistant in negotiating treaties, being thus led to Michigan, where he located at Marshall in 1838.

In 1839 he was sent to the national capital on public business and acted as Washington correspondent for the Detroit *Free Press* during 1839-40, thereby gaining a national reputation as a brilliant and forcible writer. In 1841 he assumed the editorial chair of the *Michigan Journal of Education*, then the official organ of the Department of Public Instruction, and in 1846 was elected associate judge of the Calhoun county court with Judge Hall of Battle Creek, holding this office until 1848. The next year he was appointed Superintendent of Public Instruction and, this office becoming elective in 1850, was that year elected to the same position and re-elected in 1852, thus continuing in office for three terms. Francis Shearman's most enduring monument is the record of his services during this period, and his annual report for 1852 is said to be the most able, comprehensive, and valuable work on the school system then extant. This book was extensively called for in other states, and was widely quoted as authority on educational subjects. It is but fair to add that, during his superintendency, Michigan's grand school system advanced a long way toward the efficiency that characterizes it today. At the close of his third term, he resumed the editorial pen and conducted the *Marshall Expounder*, a leading democratic journal of central Michigan; he also discharged the duties of magistrate in the city of his residence during the last fifteen years of his life.

Possessed of unusual oratorical ability and being an independent thinker as well as a forcible and polished writer, it is not strange that he continued a distinguished member of his college fraternity, the "Sigma Phi," until the day of his death, which occurred at his home in Marshall, December 7, 1874.

His natural love of universal education was greatly strengthened by his broad cultivation and the wide experience of a long and useful life; yet, though ever alive to the progress of art and science and all the vital interests of the nation, he still remained remarkably domestic in his habits and held in the highest veneration the sacred obligation of the nuptial state. In expressing his views on this subject, he always became eloquent, and his daughter, Mrs. F. C. Page of Marshall, Mich., testifies that he governed his home life in conformity with his own words, "The family bond is the dearest on earth, and home the holy of holies of human society."



JOHN M. GREGORY.

JOHN M. GREGORY.

The sixth Superintendent of Public Instruction, John M. Gregory, held this responsible position for three terms, from 1859 to 1864 inclusive. He was born at Sand Lake, Rensselaer county, N. Y., July 6, 1822. Deprived of a most estimable mother at the early age of four, he was yet blessed with a father who taught him such lessons of practical industry that he always ascribed the success of his manhood largely to the power for work gained in boyhood. His father, Joseph Gregory, was a tanner and farmer, besides maintaining shops for the manufacture of his leather into shoes and harness, and John was thus taught more or less of each of these trades. As a child he went to the "old red schoolhouse," but at the early age of thirteen was put regularly to work in the tannery or on the farm, and for the next four years the district library, which was kept at his father's house, was his only means of advancement; yet he made such good use of this that he then laid the broad foundation of his future education. His experience made him so firm an advocate of the public library that Michigan greatly profited by his labors in this direction.

At seventeen years of age failing health resulted in the lad's being again sent to school, and in a single winter he made such advancement that the next spring he took charge of a private school in Schoharie county, N. Y. He then resolved to prepare for college; but, after six months in the academy at Poughkeepsie, was obliged to replenish his purse by teaching in the public school at La Grange. When twenty years of age he entered Union College, graduating in 1846 with the degree of Bachelor of Arts. During his last year in college, he entered his name in a law office and began the study of law, for the next two years alternating this study with the work of teaching. However, while teaching at Hoosac Falls, N. Y., under the influence of his religious convictions, he relinquished his intention to follow the legal profession and entered upon the Christian ministry in the Baptist church, taking up the work at Hoosac Falls and afterward at Akron, Ohio, though 1852 found him again engaged in teaching, as head of a classical school in Detroit, Mich. Becoming a member of the State Teachers' Association, he was made its president in 1853, and organized a large number of auxiliary educational societies throughout the State, lecturing at many places on the subject of education. At a subsequent meeting of the association, Mr. Gregory was elected a member of the committee for the establishment and management of an educational journal, and the Michigan *Journal of Education* was established in 1854. The next year the editorial charge was committed wholly to Mr. Gregory, and it was edited by him alone for five years, during most of which time he also continued to teach. Under his charge the *Journal* attained a wide circulation and high standing, being largely the product of his own pen. In 1859 he transferred his labors to the wider field of Superintendent of Public Instruction, and gained much praise for his wise administration of the official duties. His six annual reports outline the results of this period of his life-work.

Declining a renomination, in 1865 he accepted the presidency of Kalamazoo College and headed the movement which, in the short period of thirty days, raised nearly $30,000 to relieve it from financial embarrassment. In 1867 he became president of the newly established Illinois Industrial University at Champaign, giving to this institution the next thirteen and a half years of his life, when he left it one of the leading educational institutions of the Northwest. Within this period Mr. Gregory was U. S. Commissioner to the two international fairs held at Vienna in 1873 and at Paris in 1878, as also one of the judges at the Centennial Exposition. He also contributed largely to educational and literary periodicals, delivered numerous addresses before educational bodies, and published several educational works; but failing health finally compelled his retirement from active labor, and he removed to our national capital. During the first years of his residence there, he for a time superintended a number of mission colleges for colored people and was for two years one of the civil service commissioners. In 1885 he was compelled to resign even this work, light as it was compared with the many arduous duties which have made up the sum of a long and useful life.

ORAMEL HOSFORD.

The second son of William and Linda Ellis Hosford, born at Thetford, Vt., May 7, 1820, was the seventh State Superintendent of Public Instruction of Michigan. When fourteen years of age, he came with his parents to Oberlin, Ohio, and graduated both from the college and theological seminary there. In 1844 he came to Olivet, Michigan, and assisted Mr. Shepard in founding the college, becoming its first Professor of Mathematics and Natural Philosophy, his unwavering belief in its ultimate success being the chief inspiration during the discouraging days of its early history, his own untiring self-sacrifice being well illustrated by the following remark of a city friend who sought him out at Olivet in 1859. When going away he said to some one, "Those Olivet people are bound to succeed in building up a college, for I found Prof. Hosford and his colleagues in the bottom of the brook shoveling up sand with which to plaster a new college building. Men who will dig like that are bound to succeed."

In 1858 Prof. Hosford was ordained a Congregational minister, and in 1864 was made Superintendent of Public Instruction, for eight successive years laboring most zealously for the advancement of education. Some of the most desirable reforms ever made in the school system of the State were accomplished during this period, largely through the instrumentality of Mr. Hosford, Chief among them was the abolition, in 1869, of the old rate bill system, thus making school privileges free to all. The county superintendency also came into vogue at this time and reached the height of its prosperity during his incumbency. Indeed, those eight years covered an important period in the growth and development of our educational system, and lasting credit is due Mr. Hosford for the praiseworthy manner in which he conducted the affairs of the department, while his annual reports contain much matter of general interest to the student of the history of education in Michigan. Throughout his superintendency he held a nominal position at Olivet, and in 1873 resumed his former work in the college. In 1889 failing health compelled his resignation, and in 1890 he was honored with the appointment of Professor Emeritus.

Besides his many years of work in the class-room, he served for forty-six years upon the board of trustees and for more than thirty as member of the college executive committee, and was thus identified with this institution as no other man can ever be. He is said to have been so popular among the students that those who went out from under his tutelage always inquired *first* for Prof. Hosford, whenever they chanced to meet any comer from Olivet.

On Dec. 9, 1893, he passed suddenly and peacefully from the scene of his earthly labors, and at the tender memorial services held in the chapel of his beloved college, it was said of him, "We thank God for his life and work. His name will abide. It will shine in the galaxy of those who have consecrated their lives to Christian learning. If you seek his monument, behold Olivet."

DANIEL B. BRIGGS.

DANIEL BROWN BRIGGS.

The eighth man to undertake the responsible duties of State Superintendent of Michigan was a native of the old Bay State, as were also both his parents. He was born at Adams, Berkshire county, Mass., February 13, 1829, and, after receiving an academic education, entered Williams college in 1844, graduating therefrom with honor in 1848. For two years he studied law and was admitted to practice in 1850, just at a period when a free high school was established in his native town. The rising young student lawyer was given the principalship and filled the position most satisfactorily for three years, also acting as member of the school committee.

In March, 1854, he caught the migratory spirit of the times and came to Michigan, settling at Romeo, Macomb county, and at once entering upon the practice of law. The next year he was appointed principal of Dickinson Institute, a branch of the State University located at that place. For three years he did good service here, but in 1858 transferred his talents to a broader field by accepting the superintendency of the Ann Arbor public schools. Another term of three years was spent here, and he then removed to Jackson to fill a similar position, which he held for five years. Somewhat wearied with his long continued labors in the educational field, in 1865 he returned to Macomb county, and for nearly two years engaged in nothing more arduous than the pursuits of rural life. In 1867 the people of Macomb county elected him to the office of county superintendent of schools, and he served them faithfully in this capacity for four years, his success being indicated by his election to the presidency of the State Association of County Superintendents. He also acted as director of the Romeo public schools for eight years, and, at the expiration of his second term as county superintendent, took charge of the public schools at Mt. Clemens for one year.

Thus it will be seen that his varied experience in school work had well fitted him to be placed at the head of Michigan's great school system, to which position he was elected in November, 1872, and re-elected in 1874. Much practical work was accomplished during this period, among which was the excellent edition of school law then compiled, embracing many essential points not heretofore included, the forms for proceedings under the school law being especially helpful to school officers, and so concisely drawn up that most of them are still in common use. Upon the expiration of his second term, at the request of the incoming Superintendent, H. S. Tarbell, who was detained at Saginaw by his school duties, Mr. Briggs continued to discharge in part the duties of Superintendent of Public Instruction until July, 1877. In 1879 he became deputy Secretary of State, continuing in this position until 1883, when he finally withdrew from public life, bearing the enviable reputation of a high-minded, honorable man, and a faithful public official.

HORACE S. TARBELL.

HORACE S. TARBELL.

Horace S. Tarbell was the ninth incumbent of our State Department of Public Instruction. Born at Chelsea, Vt., in 1838, he early imbibed the same sturdy qualities that characterized the "Green Mountain Boys," qualities which have given him high rank among the great army of educators of our day.

He received his preparatory training in the seminaries of Vermont, afterwards taking a classical course at the Connecticut Wesleyan University and graduating therefrom in 1859. For the next three years he was Professor of Natural Sciences in a seminary at Belleville, Canada, and for another like period was at the head of the Farmerville County Grammar School. The next year he acted as principal of an academy at McGrawville, N. Y., coming to Michigan in 1865 and beginning his five years' work in the schools of Detroit. At first the principal of but one school, the scope of his work enlarged until at last he had supervision of the Bishop, Duffield, and Washington schools. Within this period he also conducted an evening school in the Detroit House of Correction, whereby he accomplished incalculable good, this being the first successful attempt at a regularly organized prison school. In 1871 he became superintendent of the schools at East Saginaw, where he remained for six years. In 1875 he was president of the State Teachers' Association, and in 1876, through the influence of the teachers of the State, was nominated by the republican and greenback parties for State Superintendent. To this office he was elected and entered upon its duties January 1, 1877. The need for some method of raising a larger fund for State institutes at once engaged Mr. Tarbell's attention, and he not only conversed with hundreds of persons in various parts of the State, but also carried on a large correspondence, receiving at least two thousand letters upon this subject; and it was largely through his influence that the new institute law of 1877 was passed, whereby an annual fee of fifty cents is required from each female applicant for certificate and one dollar from each male. His annual report for that year contains his views regarding the necessity of this certificate fee, in order to make of the institute a more powerful lever for the elevation of the schools. In 1878 the republicans nominated Mr. Tarbell for re-election, but he resigned to accept the superintendency of the Indianapolis schools. After six years' service there, he resigned and accepted his present position as superintendent of the schools of Providence, R. I.

His entire life has been spent in school work, as pupil, teacher, or superintendent; and since going to Providence he has found time to write a series of text books on language, whose excellence is best shown by the fact that some hundreds of thousands have been sold.

CORNELIUS A. GOWER.

CORNELIUS A. GOWER.

The man who was called upon to take up the work laid down by Hon. H. S. Tarbell and become Michigan's tenth Superintendent of Public Instruction, was born at Abbot, Me., in 1845. From the age of thirteen to seventeen he was surrounded by the wholesome influences of country life, attending school in winter and working on his father's farm in summer. He took a short course in the academy at Waterville, Me., preparatory to entering Waterville College—now Colby University—situated at that place. Beginning when he was seventeen he taught four terms of winter school on the Atlantic coast. Coming to Michigan in the spring of 1867, he entered our State University as member of the senior class, graduating from the classical course that year. He then entered the law department, where he remained for one year, teaching meanwhile in the Ann Arbor high school. In September, 1868, he accepted the superintendency of the schools at Fenton, Mich., which position he held for three years. He next became county superintendent of schools in Genesee county, to which office he was twice elected, and three years later resigned to accept the superintendency of the Saginaw city schools, remaining there for four years.

In 1878 he was elected president of the City Superitendents' Association of Michigan, and in September of that year received his appointment as State Superintendent of Public Instruction. His name was also substituted for that of Mr. Tarbell on the republican State ticket, which had been previously nominated, and he was duly elected. The three annual reports bearing his name show the painstaking, thoughtful labor bestowed on his work; and his final report contains a comprehensive summary of the school statistcs compiled by all his predecessors, showing not only the progress made, but also how broad a foundation those early pioneers of education laid for later years to build upon. At this time the examination of teachers was in the hands of the township superintendent; and one of the things to which Mr. Gower directed considerable thought was the bringing about of some legislation which should provide for a new and better system of examintion and supervision of schools, a system which should combine the best features of all those previously used in our schools. The agitation of this question resulted in the passing, by the legislature of 1881, of an act revising and consolidating the school laws and making some new provisions which worked a radical change in the above named regulations.

February 8, 1881, Mr. Gower tendered his resignation to take effect upon the appointment of his successor, who was not named until the next June, after which the subject of this sketch assumed charge of the State Reform School, now known as the Industrial School for Boys. Under his superintendency, the humanitarian work which had been so well inaugurated by F. M. Howe, was carried to a successful completion—a work which changed the school from a prison-like institution, with high, unsightly fence and iron doors, to a cheerful, busy place which well merits its new name. The superintendent's report for 1883-4 is said to give more information in a few pages, concerning the school as it once had been and then was, than one could gain from reviewing the entire eighteen years within which the change occurred. On January 8, 1892, he completed his work here, having been the guiding spirit for nearly eleven years, and became general manager and more recently president of the Capital Investment, Building and Loan Association, which position he still holds, being widely known as one of Lansing's most honored citizens.

VARNUM B. COCHRAN.

VARNUM B. COCHRAN.

On December 5, 1845, in Argentine, Genesee county, Mich., was born the man who thirty-six years later became the eleventh Superintendent of Public Instruction. His early instruction was gained in the schools of Linden and Fenton, while later he attended the Ann Arbor high school and completed the studies necessary for entrance to the University, though meantime he taught three terms in the school of his native town, and for more than a year was in charge of the schools of Marquette. In the fall of 1866 he entered the literary department of the Unversity, but ill health prevented his completing the full course, though at the commencement of 1882 the honorary degree of Master of Arts was conferred upon him. Returning to the Upper Peninsula, he became superintendent of the Marquette schools, but after a time engaged in the drug business there and was also county superintendent of schools, finally again returning to the teacher's work and assuming charge of the public schools at Negaunee. It was from here that he came in 1881 to fill the vacancy that ensued upon the resignation of Hon. C. A. Gower, and the ensuing year he was elected to continue in this position.

It was but a short time prior to this that the new school law, revising and consolidating the old law, was passed, taking effect July 1, 1881. Shortly before this Mr. Cochran issued the annual compilation of school laws in an edition which required much careful preparation, since nearly all the provisions contained in the compilation of 1879 had been repealed and replaced by new ones. It contained copious side notes and references, and was well designed to serve as a guide for school officers throughout the State. The delicate task of putting the new machinery of the law into motion next engaged his attention, and his report for 1881 discusses the new system at length, making suggestions and recommendations in reference to its application. In the fall of 1881, immediately after the forest fires had devastated the counties of Huron, Sanilac, and Tuscola, he made a tour through these counties in the interest of the schools, gathering facts and statistics with which, at the special session of the legislature of 1882, he succeeded in securing an appropriation from the State of $15,000, forty-nine school houses being rebuilt in those counties.

On March 1, 1883, he resigned his position to accept that of Register of the U. S. Land Office at Marquette, which latter position he retained for five years. At the expiration of this period, he spent a summer in the Minnesota Iron Region, and subsequently a year in traveling through the South and West. Returning to Marquette, he has since spent most of his time there, though absent in Europe during the winter and spring of 1892.

The same good judgment and systematic labor which made him so successful in educational work, have since gained for Mr. Cochran a promising place in business circles, and he is now engaged in the real estate and insurance business and the manufacture of carriages, besides having large railroad interests, being president of both the Marquette, Houghton & Ontonagon R. R. and the Hancock & Calumet R. R.

HERSCHEL R. GASS.

HERSCHEL R. GASS.

The township of Ray, Macomb Co., Mich., was the birthplace of the twelfth Superintendent of Public Instruction. Here was born Herschel R. Gass, on March 7, 1844. Having lived on his father's farm until twenty-one years of age, his early instruction was all received in the common district school. In 1866 he spent one term at Oberlin college, going thence to the Utica high school to prepare for entrance to our State University. Graduating from Utica in 1869, he that fall entered the literary department at Ann Arbor, graduating therefrom in 1873, having paid his way through college, and the preparatory school as well, by teaching in the district schools and working during vacations. From 1874 to 1877 he filled the position of teacher of mathematics and the sciences in the Vincennes University, Ind., and while here received from Ann Arbor the honorary degree of Master of Arts. Returning to his native State in 1877, he assumed the principalship of the Vernon high school, remaining here one year and then accepting the superintendency of the Jonesville schools. It was in the fifth year of his service here that he received the appointment of Superintendent of Public Instruction, to fill the vacancy caused by the resignation of Hon. V. B. Cochran, and took up his new duties in Feb., 1883. It was during his incumbency that the movement looking toward the self-improvement of the teachers by home reading and study, culminated in the formation of the Teacher's Reading Circle, and Mr. Gass extended all possible aid and encouragement to the new organization, the examination questions being partially based upon the texts adopted in their course of reading. The new Compulsory School Law had also taken effect but a few months before his appointment, and he devoted considerable attention to its proper enforcement. In 1884 he was elected to continue in office, and his report for that year reviews the arguments favoring the Township Unit System, a measure that had been advocated by various Superintendants ever since it was first proposed by John M. Gregory. Mr. Gass strongly recommended legislation in this direction; and a committee appointed by the State Teacher's Association prepared a circular on this subject to be distributed throughout the State. This gained many advocates for a cause which, though failing to pass the legislature, is still strongly urged by nearly all school men. As this was the year of the Cotton Expositon at New Orleans, Mr. Gass was called upon to arrange for a school exhibit which should show what Michigan had done to educate her citizens. He accordingly had a fine series of colored maps and charts engraved which, together with a large number of photographic views, gave a very comprehensive idea of our school system and made a most successful exhibit.

In April, 1885, Mr. Gass resigned his position and has since been engaged in mercantile business at Flint Mich.; in mining in the Upper Peninsula; in real estate at Mobile, Ala.; and in the Florida phosphate business.

THEODORE NELSON.

THEODORE NELSON.

The thirteenth Superintendent of Public Instruction was a native of Michigan, born at Madison, Lenawee county, February 11, 1841. When Theodore was fourteen years old, his father removed to Gratiot county, then the frontier of Michigan settlements, and the lad grew up amid many privations, yet making such good use of his limited advantages that he became a teacher in the common schools at the early age of seventeen. It was about this time that he took upon himself the Christian vows to which he ever remained so truly faithful. His desire for a college education now became so great that he twice made his way, alone and on foot, to Hillsdale College, over a hundred miles away. There with an older brother, he lived with the most frugal economy, until the boom of confederate guns called him to the defense of his country, though his services were at first declined on account of his youth. However, he finally returned to his home and enlisted in a company of which he afterward became captain. At the close of the war he entered Kalamazoo College but his popularity at home having secured his election as register of deeds, he returned to take up the duties of that office. Having accumulated sufficient means, he declined a second term that he might return to college, going first to Ann Arbor, but finally graduating at Kalamazoo in 1872.

From his early boyhood he was known as a speaker of great promise, making stirring political speeches and religious addresses while yet in his minority. When a student, he was ordained at Ithaca. Supplying churches at Plymouth and elsewhere, at length being settled at Ithaca. Going thence to East Saginaw, he labored there most successfully for nine years. It was here that the sudden loss of four lovely daughters by one fell stroke of diphtheria, gave him the shock from which he never entirely recovered, and aided by generous friends, he traveled east, west, south, and in Europe in search of health.

Having partially recovered, he filled with marked success the acting presidency of Kalamazoo College during a year's absence of its incumbent, and then accepted the professorship of English at the State Normal, coming from there in April, 1885, to fill the vacancy caused by the resignation of Hon. H. R. Gass. He administered the duties of the office with painstaking care, giving especial attention to the advancement of the recently formed Teacher's Reading Circle, as also to the carrying out of his theory regarding institute work; viz., that it should be regarded as a Normal School with a very short course of study.

His next service was to aid in the establishment of Alma College, where a professorship was given him; but his love for the pulpit soon led him to accept a call to Saginaw W. S., where he labored under great physical disability for four years. Being then unanimously called to the presidency of Kalamazoo College, he greatly desired to respond, though hesitating on account of his health; but being encouraged by good medical advice, after a period of recuperation, he took up the work he so loved, For one term he worked hopefully; but at the beginning of the second he was obliged to withdraw to the Alma Sanitarium, finally giving up all hope of added years of usefulness and serenely accepting the last summons, which came May 1, 1892. The funeral services were held in part at Alma, in part at Saginaw, where his remains were laid to rest by the side of the lost loved ones; and in both places the universal sorrow showed that a great and good man had gone to his reward.

JOSEPH ESTABROOK.

JOSEPH ESTABROOK.

The fourteenth name enrolled on the list of Michigan State Superintendents is that of a man who is still prominent among school-men, as well as beloved and honored by all who know him; a man who, after fifty-four years of active participation in the schools of our State, is still engaged in transmitting to the rising generation the knowledge gathered through so many years, and in giving immature minds the benefit of his ripened judgment and keener insight.

Joseph Estabrook was born at Bath, N. H., in 1820. When a lad of fourteen years, he went with his parents to western New York, where they remained four years, coming to Michigan in 1838. A branch of the State University was then located at Tecumseh, and here he prepared for college, going to Oberlin, Ohio, for his subsequent course. Like so many of our self-made men, he taught winters and worked during vacations to defray his expenses. When thirty-three years of age, besides completing his college course, he had spent seven winters teaching in the district schools of Lenawee Co., had taught a select school in the village of Clinton for two and one-half years, and been three years in charge of Tecumseh Institute, one of the small academies then scattered throughout the country, With this ample preparation, in 1853 he took charge of the public schools of Ypsilanti, gaining much added reputation during the fourteen and a half years of his work there. He was, in the fall of 1866, called to take charge of the schools of East Saginaw, as their first superintendent. There were at that time in all eleven teachers, each working without plan or organization. These schools were soon organized and graded, and the work well begun which has resulted in a thoroughly organized system among the very best in the State. He remained here five years, during which time the seventeen select schools and so-called academies, including the Germania, were suspended and merged into the public schools; and the confidence of the people in them was firmly established, the number of the teachers being increased from eleven to thirty-six. In 1871 he became principal of the State Normal School and for nine years administered the affairs of this institution with eminent success. During nearly all this time, he acted as one of the University regents.

In 1880 began another period of his life-work, when he became professor of Logic and English Literature at Olivet, also principal of the normal department; and he still carried on a portion of his work there after the election of 1886 placed him at the head of our school system as Superintendent of Public Instruction. For four years the schools of the State profited by his long and varied experience; and the introduction, in 1890, of regular examination questions on theory and art of teaching, is one of the many ways in which he left the indelible impress of his influence upon the teachers. The outcome of the beginning then made, is the now generally accepted belief that something more than mere scholarship is necessary to the equipment of a good teacher.

At the conclusion of his second term of office, Prof. Estabrook again turned all his attention to his beloved work at Olivet, where he still remains. Being also an ordained minister of the gospel, he labors not only for the intellectual development of the students, but for their soul culture as well; and the many eloquent sermons he preaches are so well supplemented by his own consistent life that his influence in this direction is counted one of the valuable factors in the work at Olivet.

FERRIS S. FITCH.

FERRIS S. FITCH.

The fifteenth man to take his place at the head of Michigan's public school system was Ferris S. Fitch. He was born upon a farm in the township of Bunkerhill, Ingham Co., Mich., Feb. 1, 1853, at a place now known as the village of Fitchburg, from the fact that his father, Ferris S. Fitch, was the first in this section to make a farm out of the unbroken wilderness. From his father he inherited a thirst for knowledge and at the age of sixteen left the labors of the farm to enter the State Normal School at Ypsilanti. After completing the classical course, he entered the classical course of the State University in 1873, graduating four years later. Soon after he accepted the chair of Latin and Greek in Smithson College, Ind., and later became acting president of that institution. In 1878 he resigned this position to accept the principalship of the high school at Pontiac, Mich. After three and one-half years in this position, he was promoted to the superintendency of the Pontiac schools, which position he held nine years. In March, 1890, he tendered his resignation, which took effect at the close of the school year, when he became editor and manager of the *Oakland County Post*. The following month he was unanimously nominated to the office of Superintendent of Public Instruction, by the Democratic State convention, the nomination being entirely unsolicited. He was elected and unanimously renominated in 1892, but was defeated with the rest of the Democratic State ticket.

While Superintendent of Public Instruction he, acting as chairman of the World's Fair Educational Committee for Michigan, was mainly instrumental in outlining the plan of the State educational exhibit for the Columbian Exposition of 1893; and after his term of office had expired, he was appointed by the committee as superintendent and secretary of the exhibit, and in this capacity arranged and installed it. In addition to the several awards on the school work of the exhibit, he received an award on it as a whole, including the elaborate statistical charts and maps which he invented to illustrate the condition and growth of the educational system of the State.

During his term of office he directed his attention mainly to the improvement of the system of teacher's institutes as a means of raising the standard of the common schools. To this end he published a graded course of study for institutes, and, in connection with it, a course of study to be pursued by teachers during the school year. He also strongly advocated, as essential conditions to permanent improvement, the appointment of a permanent, salaried corps of institute conductors, and the establishment by law of an orgaic connection between the State Normal and University on the one hand, and the teachers' institutes on the other.

At the conclusion of his duties connected with the exhibit at Chicago, Mr. Fitch returned to Pontiac and resumed personal charge of the newspaper before mentioned.

CORTLAND B. STEBBINS.

CORTLAND B. STEBBINS.

Among those who have acted as deputy State Superintendent, there is one who labored so long and faithfully as to merit special attention. Cortland B. Stebbins was born in Williamston, Vt., in 1812. At the age of fourteen he was left, by the death of his father, to "paddle his own canoe." His education was in the district school and Montpelier academy. At twenty-one he had acquired quite a local reputation as a writer and politician, in the meantime becoming a skillful cabinet-maker. In the same year, upon the meeting of the legislature, he was surprised at being appointed an "officer of the House" by the speaker whom he had never met. This was repeated by the several speakers in the three following years.

In the autumn of 1836 he struck out for the wild West to find a place for working at his trade. He reached Buffalo in six days, a few hours after the last boat had left port for the season. He at once entered a lawyer's office and diligently studied the elementary principles of law till the next summer. The next fall he came to Michigan; and, after a hard fight with fever and ague, as well as with the "hard times," in 1842 settled in Adrian. In 1844 he became the editor of the Adrian *Michigan Expositor*. This position he held (still continuing his cabinet business) till 1849, when he was appointed by President Filmore, special agent of the postoffice department. He had been the editor first in the country to recommend Mr. Filmore to the presidency. The vocation which he had followed for twenty years was at this time laid aside.

In 1857 he was engaged to edit the *Lansing Republican*, which brought him to Lansing; and the circulation of the paper was doubled in six months. He was also private secretary to Governor Bingham. July 1st, 1858, he closed his connection with the paper and accepted a clerkship in the office of Public Instruction with Superintendent Mayhew. His first work was to write a History of the Educational Funds of the State; also an article upon the primary school system, occupying 160 pages in the 1859 edition of School Laws. This work received high public commendation. He was appointed Deputy Superintendent by Supt. Gregory, when the law of 1859 established the office, which position he held under the several superintendents until he left the office, July 1st, 1878.

His labor of twenty years made little public show, but his influence affected every school district in the State. His correspondence was largely in deciding questions of school law, in which he was generally regarded as good authority. Every superintendent bore testimony to his ability and faithfulness. At his suggestion, various desirable amendments were made to these laws, among which were the following: He drew the bill, which passed, whereby school directors were compelled to take a census, with the names and ages, under oath, thus precluding the possibility of a fictitious number being returned, as had sometimes previously happened; and another, fixing a penalty of twenty dollars for disturbing a school. He is proud of securing the law giving colored children equal rights with others in school (Sec. 28, School Laws). He found the financial reports of the districts so meager and crude as to be almost valueless, and formulated a system for the blanks showing the receipts and expenditures for the several objects, which is still followed. He superintended the printing, and largely the compilation, of three editions of school laws and of nineteen annual reports, of over 150,000 volumes.

He wrote much for the press on educational and other subjects, and his articles may be found in more than fifty papers in this State and several in other States. Though now advanced in years, his prolific pen shows no abatement of force; and he still retains, in every branch of Christian enterprise, the same keen interest which for many years placed him among the active supporters of all that tends toward the elevation of the community.

INDEX.—PART I.

Academy of the Sacred Heart, general and financial statistics of 128, 129
Adrian College, general and financial statistics of 128, 129
Agricultural College, general and financial statistics of 128, 129
Akeley Institute, general and financial statistics of 128, 129
Algebra, number of districts giving instructions in 82
Alma College, general and financial statistics of 128, 129
Amount due the districts 76
paid and due inspectors, etc. 76
township chairmen and officers 76
Apparatus, necessary, discussed in Superintendent's Introduction 8
Architecture, school, discussed in Superintendent's Introduction 22
Arithmetic, number of districts giving instruction in 82

Battle Creek College, general and financial statistics of 128, 129
Bensonia College, general and financial statistics of 128, 129

BIOGRAPHICAL SKETCHES OF EX-SUPERINTENDENTS OF PUBLIC INSTRUCTION:
Briggs, Daniel Brown 145
Cochran, Varnum B. 151
Comstock, Oliver Cromwell 135
Estabrook, Joseph 157
Fitch, Ferris S. 159
Gass, Herschel B. 153
Gower, Cornelius A. 149
Gregory, John M. 141
Hosford, Oramel 143
Mayhew, Ira 137
Nelson, Theodore 155
Pierce, Rev. John Davis 131
Sawyer, Jr., Franklin 133
Shearman, Francis Willett 139
Stebbins, Cortland B., Ex-Deputy 161
Tarbell, Horace S. 147
Blind, School for the, general and financial statistics of 128, 129
Boards of Examiners, expenses and compensation, amount of 62, 90
list of members of 124
number of days devoted to meetings of 90
Bonded indebtedness of the districts 61, 76
Botany, number of districts giving instruction in 82
Branches of instruction, statistics of 82
Briggs, Daniel Brown, biographical sketch of 145
Buildings and repairs, expenditures for 61, 74

Certificates, different grades, number receiving 85
Normal, number of teachers holding 85
number of applicants having received some Normal instruction 85
receiving without previous experience in teaching 85
who had attended institute during year 85
revoked 85
suspended 85
regular, number of applicants for 85
special, number of applicants for 85
State, number holding 85
Changes in School Law, discussed in Superintendent's Introduction 52
Children attending public school, number of 66, 78
between 5 and 20, number of 66, 78
in graded school districts 58, 78, 92
ungraded school districts 58, 78

CITY SCHOOLS:
Amount paid for instruction ... 114
regular teachers ... 114
special teachers ... 114
superintendents ... 114
Attendance, average daily ... 108, 110, 112
Children between 5 and 20, number of ... 108, 110, 112
Cost per capita by department, for instruction and incidentals ... 114
Drawing, schools giving instruction in ... 108, 110, 112
Enrollment by departments ... 108, 110, 112
French, number studying ... 109, 111, 113
German, number studying ... 109, 111, 113
Graduates, average age of ... 109, 111, 113
Greek, number studying ... 109, 111, 113
Kindergarten, below primary grade, number of schools having ... 109, 111, 113
work, portion of time in first primary grade devoted to ... 109, 111, 113
Latin, number studying ... 109, 111, 113
Music, schools giving instruction in ... 109, 111, 113
Non-resident pupils, number of ... 109, 111, 113
Number belonging, average ... 108, 110, 112
Number of pupils to each teacher ... 109, 111, 113
Penmanship, schools giving special instruction in ... 109, 111, 113
Superintendent's time given to supervision, portion of ... 109, 111, 113
Teachers, number employed ... 109, 111, 113
special, number of ... 109, 111, 113
Civil Government, number of districts giving instruction in ... 82
Cochran, Varnum B., biographical sketch of ... 151
College Diplomas and Certificates, law relating to, discussed in Superintendent's Introduction ... 53
Colleges, statistics of (see State and Incorporated Institutions) ... 128, 129
Commissioners, school, list of ... 124
salary of ... 62
Committee of Ten, discussed in Superintendent's Introduction ... 19
Comparative Diagrams, shown in Superintendent's Introduction ... 41-51
Compulsory School Law, discussed in Superintendent's Introduction ... 8
Comstock, Oliver Cromwell, biographical sketch of ... 135
Cost per capita of schools ... 78
Councils and Rallies, Educational, discussed in Superintendent's Introduction ... 6
Course of study, prescribed, number of schools with ... 86

Deaf, School for, general and financial statistics of ... 128, 129
Detroit College, general and financial statistics of ... 128, 129
Detroit Home and Day School, general and financial statistics of ... 128, 129
Dictionaries, number of schools supplied with ... 88
Districts, graded school, number of ... 58, 66
expenditures of ... 61, 74
number that maintained school ... 58, 66
resources of ... 61, 72
whole number of ... 58, 66
District libraries (see libraries).
Drawing, schools giving instruction in ... 109, 111, 113

Educational Funds, discussed in Superintendent's Introduction ... 55
Estabrook, Joseph, biographical sketch of ... 157
Evelyn Industrial Institute, general and financial statistics of ... 128, 129
Examination of teachers, statistics of ... 85
Examinations, public, number of ... 85
Teachers', discussed in Superintendent's Introduction ... 1
Examiners, county, list of ... 124
Expenditures of school districts ... 74
Expenses of schools, total net ... 61, 74

Financial statistics, miscellaneous ... 76
Fitch, Ferris S., biographical sketch of ... 159
Free text-books, discussed in Superintendent's Introduction ... 8, 10
French, schools giving instruction in ... 109, 111, 113
Funds, Educational, discussed in Superintendent's Introduction ... 55
Agricultural College, The ... 56
Normal School, The ... 56
Primary School, The ... 55
Primary School Interest, The ... 55
University, The ... 56

Gass, Herschel R., biographical sketch of ... 153
Geography, number of districts giving instruction in ... 82
Geometry, number of districts giving instruction in ... 82
German American Seminary, general and financial statistics of ... 128, 129
German, schools giving instruction in ... 109, 111, 113
Globes, number of schools supplied with ... 61, 88
Gower, Cornelius A., biographical sketch of ... 149
Graded school districts, number of ... 58, 66
Graded schools, cost of per capita ... 78

GRADED SCHOOL STATISTICS:
Aggregate number of months taught in ... 93
Children attending school, number of ... 58, 78, 93
between 5 and 20, number of ... 58, 78, 93
Cost of total ... 93
Indebtedness, total ... 61, 93
Instruction and superintendence, amount paid for ... 93
Property, estimated valuation of ... 61, 93
School, number of days taught ... 93
Teachers, number employed ... 59, 93
Wages of teachers, average monthly ... 60, 93
total ... 59, 60, 93
Grammar, number of districts giving instruction in ... 82
Grammar school departments, statistics of (see city schools).
Greek, schools giving instruction in ... 109, 111, 113
Gregory, John M., biographical sketch of ... 141

Hillsdale College, general and financial statistics of ... 128, 129
History, number of districts giving instruction in ... 82
Holland Christian Reformed Seminary, general and financial statistics of ... 128, 129
Hope College, general and financial statistics of ... 128, 129
Hosford, Oramel, biographical sketch of ... 143

Incorporated Institutions, State and, statistics of ... 128, 129
Indebtedness of districts, amount paid on ... 61, 74
bonded and total ... 61, 76
Industrial School for Boys, general and financial statistics of ... 128, 129
Girls, general and financial statistics of ... 128, 129
Inspectors and members of school boards, amount paid ... 63, 76
Institutes, average attendance ... 122
conductors and instructors ... 120
enrollment in ... 122
kinds and grades of certificates held by members ... 122
location and date of ... 118
number having received Normal instruction ... 122
without experience in teaching ... 122
percentage of whole number of teachers that attended ... 122
receipts and expenditures at ... 62, 118
Institute Fees, amount collected ... 90

Kalamazoo College, general and financial statistics of ... 128, 129

Latin, schools giving instruction in ... 109, 111, 113
Legally qualified teachers, number of ... 85
Libraries, discussed in Superintendent's Introduction ... 10–18
district, general and financial statistics ... 80
amount of fines received from county treasurer for ... 80
paid for support of ... 62, 80
number of districts maintaining ... 62, 80
volumes added to, during year ... 80
whole number of volumes in ... 62, 80
township, general and financial statistics ... 62, 80
amount of fines received from county treasurer for ... 80
taxes voted for ... 80
paid for books and care of ... 62, 80
number of townships maintaining ... 62, 80
volumes added to, during year ... 80
whole number of volumes in ... 62, 80
Library books and care of library, expenditures for ... 62, 74
Library moneys, number of townships forfeiting ... 62, 80
using for general school purposes ... 62, 80
receipts from ... 72
Loans, amount received from ... 61, 72
paid interest on ... 61, 74

Maps, number of schools supplied with ... 88
Mayhew, Ira, biographical sketch of ... 137
Michigan Female Seminary, general and financial statistics of ... 128, 129
Michigan Military Academy, general and financial statistics of ... 128, 129
Michigan Mining School, general and financial statistics of ... 128, 129
Michigan School Exhibit, The, discussed in Superintendent's Introduction ... 54
Mill tax, receipts from ... 72
Moneys on hand, amount of ... 72
Music, schools giving instruction in ... 109, 111, 113

Natural Philosophy, number of districts giving instruction in ... 82
Nelson, Theodore, biographical sketch of ... 155
Net receipts of all districts, total ... 72
Non-resident pupils, tuition of, amount ... 72
number in city schools ... 109, 111, 113
Normal Schools, more, discussed in Superintendent's Introduction ... 9

Old Glory, discussed in Superintendent's Introduction ... 20
Olivet College, general and financial statistics of ... 128, 129
Orthography, number of districts giving instruction in ... 83

Penmanship, schools giving special instruction in 109, 111, 113
Physiology, number of districts giving instruction in 82
having adopted text-books on 88
statistics as to teaching of 92
teaching 88
Pierce, Rev. John Davis, biographical sketch of 131
Plans of school houses, given in Superintendent's Introduction 24-37
Primary school departments, statistics of (see city schools).
Primary school interest fund, apportionment of 63, 64
receipts from 72
Private and select schools, statistics of 59, 84
Public examinations, number of 85
Pupils, number enrolled in graded school districts 58, 78, 93
ungraded school districts 58, 73

Raisin Valley Seminary, general and financial statistics of 128, 129
Reading, number of districts giving instruction in 82
Resources of school districts 72

Sawyer, Jr., Franklin, biographical sketch of 133
School Architecture, discussed in Superintendent's Introduction 22
heating and ventilating school houses 23
miscellaneous suggestions 23
plans of school houses 24-37
School, average number of months 66
whole number of days 66
School boards, inspectors and, amount paid for services 76
School commissioners for 1893, list of 124
number of schools visited by 85
salary of 62
School districts (see districts).
grounds, discussed in Superintendent's Introduction 21
houses, number and material of construction 60, 66
sittings provided 61, 66
ventilated, number properly 88
outhouses, discussed in Superintendent's Introduction 23
property, estimated valuation of 61, 66
School Law, changes in, discussed in Superintendent's Introduction 52
compulsory, discussed in Superintendent's Introduction 8
School statistics, general 66
Schools, cost per capita 78
number properly classified 88
in which physiology is taught 88
with prescribed course of study 88
private and select, number of 84
teachers employed in, men 84
women 84
pupils in, number of, estimated 84
Schools and school houses, statistics as to condition 60, 88
Science in primary grades, discussed in Superintendent's Introduction 18
Shearman, Francis Willett, biographical sketch of 139
Spring Arbor Seminary, general and financial statistics of 128, 129

STATE AND INCORPORATED INSTITUTIONS:
Amount of legislative appropriation 129
Buildings, value of 129
Cost per student 129
Current expenses for the year 129
Expenses for permanent improvements 129
Funds, amount of 129
Graduates, number of in 1893 128
whole, since founded 128
Income from productive funds 129
Instructors, number of 128
Liabilities 129
Libraries, number of volumes added during year 128
whole number volumes in 128
Location of 128
Organization, date of 128
President, name of 128
Receipts 129
Students, number of 128
State Normal School, general and financial statistics of 128, 129
State Public School, general and financial statistics of 128, 129

STATISTICAL TABLES:
Apportionment of primary school money 64
Branches of instruction 82
Comparative summary of statistics for 1892-3 58-63
Conditions of schools and school houses 88
Cost per capita of public schools 78
Employment of teachers 69
Examination and certification of teachers 85
Expenditures of school districts 74
Financial statistics of city schools 114

STATISTICAL TABLES—*Continued:*
General school statistics ... 66
Graded school statistics ... 93
Miscellaneous financial statistics ... 76
statistics ... 90
of city schools ... 108
Physiology, extent to which taught ... 92
Private and select schools ... 84
Resources of school districts ... 72
School commissioner sand county examiners ... 124
State and incorporated institutions, statistics, financial ... 129
general ... 128
Statistics of township and district libraries ... 80
Teachers' Institutes, enrollment and attendance ... 122
local committees, conductors, etc. ... 120
receipts and expenditures ... 118
St. Mary's Academy, general and financial statistics of ... 128, 129
Stebbins, Cortland B., biographical sketch of ... 161
Suggestions, miscellaneous, discussed in Superintendent's Introduction ... 8

SUPERINTENDENT'S INTRODUCTION:
College diplomas and certificates ... 53
Committee of Ten ... 19
Diagrams, comparative ... 41-51
comparing the amount of money spent for school purposes ... 48
attendance at institutes ... 49
in schools, percentage of ... 43
cost of instruction ... 47
expenses of institutes ... 50
libraries, township and district ... 51
number of teachers employed ... 44
school population and actual enrollment ... 42
wages of teachers, female ... 46
male ... 45
Educational councils and rallies ... 6
Educational funds ... 55, 56
Agricultural College ... 56
Normal School ... 56
Primary School ... 55
University ... 56
Free Text-books ... 8, 10
Libraries ... 10-18
Michigan School Exhibit, The ... 54
expenses ... 54
receipts ... 58
Miscellaneous suggestions ... 9
More Normal Schools ... 8
Necessary apparatus ... 0
Old Glory ... 27
School architecture ... 22-32
heating and ventilating school houses ... 28
miscellaneous suggestions ... 27
plans of school houses ... 24-31
School grounds ... 22
School Law, changes in ... 58
compulsory ... 0
School out houses ... 38-48
Science in primary grades ... 15
Teachers' Examinations ... 1-6
Township Unit System, The ... 15
Value of Teachers' Association, county and district, The ... 4
Vertical writing ... 18
Uniformity of text-books ... 8

Tarbell, Horace S., biographical sketch of ... 147
Tax, one mill, amount of ... 61, 72
Taxes, district, for all purposes, amount of ... 61, 72
Teachers, amount paid ... 60, 74
aggregate number of months taught by men ... 69
women ... 69
certificates, statistics as to ... 60, 85
number making teaching a permanent occupation ... 85
of men employed ... 59, 69
women employed ... 59, 69
required to supply schools ... 59, 69, 122
qualified, number of ... 85
wages, statistics as to ... 59, 60, 69

TEACHERS' ASSOCIATIONS:
county, number of meetings of ... 62, 90
county and district, value of, discussed in Superintendent's Introduction ... 5
township, number of meetings of ... 90

Teachers' Institutes. (See Institutes.)
Text-books, Free, discussed in Superintendent's Introduction ... 8, 10
uniform number of schools having in each branch ... 88
uniformity of, discussed in Superintendent's Introduction ... 8

Total expenses per capita 78
Total indebtedness of districts 61, 76
Total resources, amount of 61, 73
Township chairmen and officers, amount of 63, 76
Township libraries. (See libraries) 80
Township Unit Districts, number of 58, 69
Township Unit System, The, discussed in Superintendendent's Introduction 18
Townships and cities, number reporting 58, 66
Tuition of non-resident pupils, amount of 61, 72

Uniformity of text-books, discussed in Superintendent's Introduction 8
University of Michigan, general and financial statistics of 128, 129

Valuation of school property, estimated 61, 66
Ventilation, proper, number of school houses having 88

Wages of teachers, statistics as to 59, 60, 69
Writing, number of districts giving instruction in 82
vertical, discussed in Superintendent's introduction 18

PART II.

TRANSACTIONS

OF THE

MICHIGAN STATE TEACHERS' ASSOCIATION

AT THE

FORTY-THIRD ANNUAL MEETING

HELD AT

LANSING, MICHIGAN, DECEMBER 26, 27 AND 28, 1893.

OFFICERS

OF THE

MICHIGAN STATE TEACHERS' ASSOCIATION

FROM 1860 TO 1893.

	President.	Vice President.	Vice President.	Secretary.	Treasurer.
1860	E. L. Ripley	G. H. Botsford	J. J. Sadler	John Richards	J. M. B. Sill.
1861	J. M. B. Sill	E. B. Fairfield	Edward Olney	W. S. Perry	G. H. Botsford.
1862	E. B. Fairfield	W. S. Perry	D. B. Briggs	John Goodison	G. H. Botsford.
1863	O. Hosford	J. M. B. Sill	E. A. Strong	H. S. Bush	G. H. Botsford.
1864	Daniel Putman	W. H. Payne	U. W. Lawton	Merritt Moore	G. H. Botsford.
1865	W. H. Payne	Lewis McLouth	E. A. Strong	Merritt Moore	John Goodison.
1866	W. H. Payne	H. A. Latson	H. Z. Potter	C. F. R. Bellows	John Goodison.
1867	D. P. Mayhew	E. A. Strong	V. P. Sidman	C. F. R. Bellows	John Goodison.
1868	H. L. Wayland	N. H. Winchell	J. W. Ewing	C. F. R. Bellows	John Goodison.
1869	T C. Abbot	C. B. Thomas	N. H. Winchell	C. F. R. Bellows	John Goodison.
1870	Duane Doty	U. W. Lawton	Z. Truesdale	Ruth Hopppin	Harriet Barnes.
1871	Duane Doty	J. B. Estabrook	O. D. Thompson	Julia A. King	B. R. Gass.
1872	J. F. Nichols	E. A. Frazer	C. B. Thomas	M. M. Rose	B. R. Gass.
1873	James B. Angell	J. C. Jones	A. J. Daniels	G. M. Clayburg	B. R. Gass.
1884	Daniel Putnam	I. Wellington	W. H. Payne	H. S. Tarbell	E. V. W. Brokaw.
1875	H. S. Tarbell	Austin George	J. C. Jones	Mrs. S. A. Perkins	E. V. W. Brokaw.
1876	W. S. Perry	George B. Jocelyn	Julia A. King	W. L. Eaton	C. B. Thomas.
1877	C. F. R. Bellows	W. H. Osband	Geo. E. Cochrane	W. C. Hill	C. B. Thomas.
1878	Edward Olney	A. J. Daniels	Mrs. L. A. Osband	Delos Fall	C. B. Thomas.
1879	E. A. Strong	Austin George	Miss F. E. Cushman	Delos Fall	C. B. Thomas.
1880	C. B. Thomas	Henry N. French	E. P. Church	Z. C. Spencer	Z. Truesdale.
1881	Austin George	I. M. Wellington	M. T. Gass	O. D. Thompson	Z. Truesdale.
1882	W. J. Beal	E. P. Church	E. B. Fairfield	David Howell	H. R. Gass.
1883	J. Estabrook	A. J. Daniels	O. C. Seelye	H. R. Pattengill	S. G. Burkhead.
1884	Z. C. Spencer	I. N. Mitchell	F. A. Barbour	H. C. Rankin	Clark Stanton.
1885	Louis McLouth	E. P. Church	J. L. Lucas	Wesley Sears	C. T. Grawn.
1886	David Howell	E. C. Thompson	J. G. Plowman	George Barnes	A. C. Brower.
1887	J. W. Ewing	D. A. Stevens	J. A. Stewart	C. W. Pickell	E. L. Briggs.
1888	E. P. Church	W. D. Clisbe	P. M. Parker	E. C. Thompson	Mrs. C. G. Chaffee.
1889	L. R. Fiske	A. E. Haynes	J. W. Simmons	H. M. Slauson	Mary E. Tilton.
1890	J. G Plowman	A. Hadlock	C. N. Kendall	D. A. Hammond	W. H. Cheever.
1891	Orr Shurtz	J. W. Simmons	C. T. Grawn	W. W. Chalmers	C. L. Bemis.
1892	Henry N. French	A. J. Murray	C. N. Kendall	W. H. Honey	J. A. Stewart.
1893	W. H. Cheever	F. E. Converse	F. D. Davis	C. O. Hoyt	S. B. Laird.

STATE TEACHERS' ASSOCIATION.

Officers for 1893.

President.

W. H. CHEEVER.....Milwaukee, Wis.

Vice Presidents.

F. E. CONVERSE.....Pontiac.
F. D. DAVIS.....Negaunee.

Secretary.

C. O. HOYT.....Lansing.

Treasurer.

S. B. LAIRD.....Dowagiac.

Executive Committee.

1890-93.

F. A. BARBOUR.....Ypsilanti.
MISS GEORGIA BACON.....Grand Rapids.
H. N. FRENCH.....Kalamazoo.

1891-94.

J. H. SHEFFIELD.....Muskegon.
J. T. EWING.....Alma.
D. E. MCCLURE.....Shelby.

1892-95.

C. H. GURNEY.....Hillsdale.
MISS E. M. HAVENS.....Owosso.
E. M. PLUNKETT.....Ovid.

Officers for 1894.

President.

C. T. GRAWN.....Traverse City.

Vice Presidents.

A. LODEMAN.....Ypsilanti.
N. A. RICHARDS.....Greenville.

Secretary.

F. R. HATHAWAY.....Hudson.

Treasurer.

T. L. EVANS.....Jackson.

Executive Committee.

1891-94.

J. H. SHEFFIELD.....Muskegon.
J. T. EWING.....Alma.
D. E. MCCLURE.....Shelby.

1892-95.

C. H. GURNEY.....Hillsdale.
MISS E. M. HAVENS.....Owosso.
E. M. PLUNKETT.....Ovid.

1893-96.

B. A. HINSDALE.....Ann Arbor.
FLORENCE C. FOX.....Lansing.
W. A. ELLIS.....Detroit.

NAMES OF THOSE ATTENDING THE STATE TEACHERS' ASSOCIATION.

Andrus, Enoch, Hastings.
Allen, T. E., Carleton.
Arbury, F. W., Battle Creek.
Austin, E. T., Owosso.
Axtell, L. J., Kalamazoo.
Angevine, F. E., Cadillac.
Anderson, S. F., Three Rivers.
Arbury, Mrs. F. W., Battle Creek.
Allen, Maude, Grand Ledge.
Ames, Josephine, Lake Odessa.
Briggs, R. D., Williamston.
Briggs, E. L., Coldwater.
Barbour, Robt. E., Highland Park.
Brown, P. M., Big Rapids.
Benson, A. F., Pontiac.
Blodgett, H. F., Mt. Pleasant.
Blodgett, Mrs. H. F., Mt. Pleasant.
Burhans, Geo. W., Pewamo.
Boone, Dr. R. G., Ypsilanti.
Barnhart, E. A., Lyons.
Braley, F. W., Saranac.
Begole, Fannie, Belleville.
Bice, Anna E., Strasburg.
Beggs, S. S., Escanaba.
Baker, Luther H., Galesburg.
Beal, W. J., Agricultural College.
Burnham, Fannie A., Saginaw, E. S.
Burnham, Smith, Albion.
Bishop, Mabel I., Mt. Pleasant.
Brandt, R. G., Imlay City.
Bradley, Hattie L., Battle Creek.
Barbour, F. A., Ypsilanti.
Bennett, B., West Branch.
Bryant, Kittie A., Jackson.
Bachelor, John, Stockbridge.
Belden, Francis S., Chicago, Ill.
Bemis, C. L., Ionia.
Bacon, Georgia, Grand Rapids.
Boone, Mrs. M. E. S., Ypsilanti.
Brady, Mary, Holland.
Brown, Hugh, Chicago, Ill.
Beech, Effie B., Lansing.
Bennett, Phillip A., Horton.
Brogan, Miss E. M., Saginaw.
Burnhams, Levi A., Portland.
Ball, Maude, Ypsilanti.
Bennett, Tura, Casnovia.
Blake, M. Ella, Jackson.
Barrow, Rose, Detroit.
Ball, Julia, Howell.
Chapel, G. T., Sand Lake.
Conlon, T. A., Eaton Rapids.
Crosby, D. J., Agricultural College.
Catton, Geo. R., Cadillac.
Cupples, J. W., Lapeer.
Carr, Clara L. Dundee.
Carlon, Lena M., Bay City.
Castell, D. G., Flint.
Clark, Mary L., Jackson.
Cannell, Maude, Lansing.
Champion, Daisy E., Lansing.
Carrier, Alice F., Lansing.
Cowley, Jennie, Lansing.
Conn, Lulu M., Lansing.
Crawford, J. R., Richmond.
Crane, Milo A., Saginaw.
Clapp, Ashley, Kalamazoo.
Cheever, W. H., Milwaukee Normal.
Chaffee, Mrs. Clara G., Flint.
Converse, F. E., Pontiac.
Coburn, W. G., Vicksburg.
Church, E. P., Lansing.
Clark, Addie M., Holland.
Carr, H. B., Whitehall.
Coddington, R. W., Shelby.
Clark, Sadie, Sand Lake.
Cady, K. Maude, Ypsilanti.
Dyer, Marie E., Decatur.
Doxsie, Georgia A., Grand Ledge.
Dillingham, Clara E., Alma.
Dell, E. E., Cadillac.
Davis, F. D., Negaunee.
Deuel, Carrie, Bismarck.
Daniells, Chas. F., Detroit.
Davis, Edith L., West Bay City.
Dodge, Mrs. M. T., Saginaw.
Demoray, A. N., Edmore.
Edwards, Howard, Agricultural College.
Ewer, Ida, Lansing.
Ellis, W. A., Detroit.
Engle, Miss A. J., Allegan.
Estabrook, J. B., Grand Haven.
Essery, Evan, Manchester.
Ferguson, E. E., Sand Beach.
Field, C. F., Tecumseh.
French, H. N., Kalamazoo.
French, W. H., Hillsdale.
Fiske, L. R., Albion.
Fortney, J. F., Charlotte.
Fish, Mary E., Greenville.
Foster, H. R., Benton Harbor.
Fitch, Ferris F., Pontiac.

Fox, Mrs. Effie M., Marine City.
Fox, Guy M., Eaton Rapids.
Fox, Florence C., Lansing.
Fox, Charles R., Marine City.
Fenn, Lizzie, Grand Ledge.
Gorton, Lewis G., Agricultural College.
Goodrich, Grace E., Detroit.
Gregor, Benjamin, Deerfield.
Greeson, W. A., Grand Rapids.
Gates, A. G., Muir.
Grove, S. D., Otisco.
Gurney, C. H., Hillsdale.
Grawn, C. T., Traverse City.
Grove, Birdie, Pewamo.
Humphrey, J. W., Wayland.
Hoyt, C. O., Lansing.
Harvey, S. B., Benzonia.
Hathaway, F. R., Hudson.
Honey, W. H., Flint.
Hartwell, S. O., Kalamazoo.
Hensel, M. W., Blissfield.
Hinsdale, B. A., Ann Arbor.
Haddock, F. D., Holland.
Harriman, E. H., Coldwater.
Hill, W. D., Jonesville.
Howland, Frank, Breckenridge.
Harlow, Fred M., Springport.
Hall, C. B., Detroit.
Hall, A. G., Grand Rapids.
Hull, W. C., Albion.
Hallock, Ella, Jackson.
Husted, Blanche, Grand Rapids.
Heller, R. R., Detroit.
Hills, C. W., Pentwater.
Haviland, Hattie V., West Bay City.
Heller, Hannah, Detroit.
Irish, Mrs. Lizzie, Lansing.
Jackson, J. J., Three Rivers.
Johnson, E., Jr., Olivet.
Jackson, Thos. J., Constantine.
Jose, Mamie, Jackson.
Kendall, C. N., Chicago.
Kollen, G. J., Holland.
Kellogg, Sara, Eaton Rapids.
Kellum, Minnie L., Lansing.
King, Hamilton, Olivet.
King, Helen, Lansing.
Kynett, Jennie, Hart.
Knight, Data, Jackson.
Kimball, H. E., Bay City.
King, H. E., Ludington.
Kelly, P. H., Hartford.
Knapp, Chas. F., Mackinac Island.
Laird, S. B., Dowagiac.
Lathers, J. Stewart, Memphis.
Lightbody, William, Detroit.
Lodeman, A., Ypsilanti.
Lathrop, Mrs. H. R., Grand Rapids.
Latham, O. E., Kalamazoo.
Lynch, Albert, Flushing.
Lodholz, Julia A., North Lansing.
Lathrop, H. R., Grand Rapids.
Lamb, Ida A., Lansing.
Lott, Emma M., Lansing.
Lee, Albert L., Olivet.
Lewis, W. H., Saginaw, W. S.
Lyon, W. F., Detroit.
Lyons, Margaret A., Bay City.
Laurence, Mrs. Mary, Agricultural College.
Matthews, J. W., Grand Rapids.
Murray, A. J., Sault Ste. Marie.
Miller, L. E., Fowlerville.
McMahon, Lois, Ypsilanti.
McQueen, Mabel, Perry.
Musser, Nettie, Perrinton.
Mosher, Mabel C., Saginaw, W. S.
Misner, Aggie, Sand Lake.
Miller, Louise, Saginaw, E. S.
McHenry, Hanna, North Lansing.
Miller, O. L., Charlotte.
Matthews, Maude, Battle Creek.
McLoughlin, A. L., Chicago.
Mandeville, Jas. M., Detroit.
McKenzie, David, Muskegon.
Martin, D. M., Hillsdale.
Mead, J. N., Detroit.
Maxwell, C. E., Evart.
Mathison, Maude, Grand Ledge.
Maltby, Lizzie, Lake Odessa.
Miller, J. R., Big Rapids.
Munson, O. F., Hesperia.
McNamara, Wm., Brighton.
McKone, W. J., Mason.
McKee, G. A., Reading.
McLoughlin, O. M., Dundee.
Maybee, Wm. H., Grass Lake.
Milhan, W. M., Galien.
Martin, Miss Channie E., Farwell.
Martin, Alex., Big Rapids.
McLean, C. M., Holland.
Mills, Melinda L., Midland.
Millis, Wade, Addison.
McCulloch, G. L., Jackson.
Norton, Ada A., Ypsilanti.
Nevins, Geo. C., Otsego.
Newby, A. J., Chicago, Ill.
Orlop, Lena, Casnovia.
Orr, Clara B., Grand Rapids.
O'Leary, J. A., Paw Paw.
Paton, Miss A. A., Ypsilanti.
Parker, Geo. A., Port Huron.
Platt, B. R., Climax.
Palmiter, Maggie, Hart.
Prescott, Alice, Sunfield.
Plowman, J. G., White Pigeon.
Pease, Frederick H., Ypsilanti.
Peabody, Lawn J., Holland.
Pickett, E. E., Lawton.
Perrin, A. B., Frankfort.
Perry, W. S., Ann Arbor.
Palmer, W. S., Muskegon.
Plunkett, E. M., Ovid.
Plunkett, Miss H. M., Ypsilanti.
Pattengill, H. R., Lansing.
Quackenbush, E. J., Cedar Springs.
Quincey, Carrie A., Jackson.
Russell, Alice B., Battle Creek.
Russell, Wilson, Scotts.
Replogle, Minnie, Hastings.
Robinson, Winnie, Ypsilanti.
Robson, Jessie, Lansing.
Roth, Millie E., Lansing.

Rourke, Mrs. Constance, Grand Rapids.
Robinson, Henrietta, Detroit.
Roche, Georgia, Lake City.
Richardson, B. E., St. Clair.
Reavy, T. J., Caro.
Richards, N. A., Greenville.
Ransom, A. E., Flushing.
Robinson, W. E., Detroit.
Ransom, Francis E., Saginaw, E. S.
Smith, M. L., South Lyon.
Shaw, A. L., Olivet.
Smith, Mabel L., Coldwater,
Strong, A. E., Ypsilanti.
Schuffler, Lizzie, Jackson.
Stephens, F. A., Stockbridge.
Smith, A. Hamlin, Grand Rapids.
Stocking, Cora, Stockbridge.
Seed, Wm. F., Cass City.
Shaffer, Mary F., Lansing.
Schurtz, Orr, Grand Rapids.
Stephens, Nina M., Oscoda.
Sterling, W. D., Hastings.
Sage, W. V., Decatur.
Starch, Tillie, Saginaw, W. S.
Scott, F. N., Ann Arbor.
Sprague, R. M., Wayland.
Sheridan, Agnes, Perrinton.
Sheridan, Alice, Perrinton.
Smith, J. W., Bay City.
Smith, Mrs. J. W., Bay City.
Simmons, J. W., Owosso.
Smith, Clinton D., Agricultural College.
Schafer, J. G., Centerville.
Smith, Cyrus, Lansing.
Sheldon, H., Corunna.
Sweet, M. J., Blissfield.
Struble, R. H., Watervliet.
Smith, David, E., Ypsilanti.
Slocum, A. G., Kalamazoo.
Schaffer, Clara E., Pewamo.
Shotwell, A. M., Lansing.
Stewart, J. A., Port Huron.
Thayer, Addie, Mt. Pleasant.
Tice, J. M., Lake Ann.
Tinkham, R. F., St. Johns.
Teller, D. A., Coldwater.
Thompson, Jas. H., Evart.
Thomas, Mamie, Potterville.
Town, Ida M., Mt. Pleasant.
Thomas, D. C., Adrian.
Tafel, Bertha, Lansing.
Trowbridge, Ida, Decatur.
Tinucane, Maggie, Lake View.
Tibbitts, Jennie, Lansing.
Tressler, A. W., Monroe.
Thompson, O. D., Romeo.
Thompson, E. C., Saginaw, W. S.
Valentine, Miles E., Bellevue.
Vanneter, M. C., Williamston.
Vroman, Rosalie, Monroe.
Voorhees, Delphine S., Holly.
Waterbury, H. S., Sparta.
Wilbur, Ida, Jackson.
Winston, R. M., St. Johns.
Whitney, M. A., Ypsilanti.
Willard, Hattie, Essexville.
Wheeler, W. M., Lansing.
Wilcox, E. R., Washington, Mich.
Watkins, E. D., Fenton.
Wagner, J. L., Grand Ledge.
Wallace, J. H., Dansville.
Wells, F. W., Concord.
Woodhaus, Edna, Detroit.
Wise, Margaret E., Ypsilanti.
Woodford, Miss R., Lansing.
Whitney, A. S., Saginaw, E. S.
Waldo, Belle, Lansing.
Watkins, Mrs. E. D., Fenton.
Weed, Marion, Grand Rapids.
Walton, Genevieve M., Ypsilanti.
Wood, L. H., Midland.
Wordon, Orpha, Grand Ledge.
Wilson, D. F., Charlevoix.
Weeks, W. W., Aurelius.
Watson, John H., Ada.
Wimer, M. W., Ypsilanti.
Wells, Bertha, Bay City.
Walker, G. M., Adrian.
Yntema, D. B., Holland.

MICHIGAN STATE TEACHERS' ASSOCIATION.

REPORT OF THE FORTY-SECOND ANNUAL MEETING.

TUESDAY, 2:00 P. M.

REPRESENTATIVE HALL,
Lansing, Michigan, Dec. 26, 1893.

One of the most practical and enthusiastic meetings ever held by the Michigan State Teachers' Association had its opening session on the above date and was called to order by President Cheever. As the afternoon's program was in charge of the commissioners, the meeting was at once turned over to them, and Enoch Andrus of Barry, president of the Commissioners' Section, took the chair and said: "I have no apology to offer concerning the program. If there are any college presidents or city superintendents present who are not interested in country schools, all the worse for them. They ought to be. The first topic on the program may seem somewhat like a chestnut. Last year a member of the committee to arrange program sent a letter to every commissioner of the State asking for suggestions as to topics for discussion at this meeting, and the one generally selected was 'Shall the Country Schools be Graded?' There are many counties where, I understand, comparatively little has been done in that line and discussion will do good. I feel sure that, where any reasonable trial has been made, the testimony will all be on one side. The last topic embraces many things that commissioners wish to discuss."

The roll was then called, and twenty-three counties found to be represented, after which Commissioner ANDRUS delivered his president's address on

"THE NEED OF BETTER FACILITIES FOR THE PROFESSIONAL TRAINING OF TEACHERS FOR OUR COMMON SCHOOLS."

Sister and Brother Commissioners, Examiners, Ladies, and Gentlemen:

Had I felt free to consult my own inclinations, you would have been spared this infliction. That I dislike to be the one to establish the precedent of entirely omitting what may be termed the president's address, is my excuse for torturing you. I trust that those of you who are awake

when I get done will bear in mind that life is a mixture of the bitter and the sweet and that, if you patiently endure the bitter now, you will be rewarded with the sweet by Brother Cheever this evening. I felt that, if I were to say anything to you at all, I wanted it to be something practical, something along the line of our work. In casting about me for that *something*, I have chosen a topic that interests me and I trust may you also. I believe there was never a truer sentiment uttered than that spoken by Supt. Fitch from this desk one year ago. "The greatest educational need of the hour," he said, "is a better system of professional training for the teachers of our common schools." I take this as my text and I am admonished that I must endeavor to say in fifteen minutes what a half hour could but poorly compass. In all that I shall say I hope you will not for an instant infer that I think we are not on the up-grade. I should have no courage to work if I did not think that. I believe there has been more real progress during the past five years than for the preceding twenty years. Without wishing in any way to anticipate what is to follow, I have no hesitation in affirming that the general introduction of a course of study into the schools and the more systematic work attendant thereon, have done and are doing a grand work for these schools; but something more is needful.

The commissioner who goes his round year after year has some things thrust upon his attention from the consideration of which he cannot escape if he would. If his soul is in his work and he does very much thinking, some of these things must impress him very painfully. When he has made a normal school of himself for a half day in one district, doing his utmost to help out one who entered the school with only the most indefinite idea of her work, and then, perhaps, repeating the same process in another school in the afternoon, he naturally asks himself, "Must this forever be? Are these children forever to be the subjects of experiment? Is teaching never to be a profession, but only the stepping stone to some other profession? Isn't the material rather too precious to be used this way? Isn't it rather expensive and unbusiness-like anyway?" And then he cannot help thinking how much more difficult his task is than that of the city superintendent. The latter can step into that teacher's room any day, indeed any hour of the day. The teacher knows that fact and governs herself accordingly. On the other hand, our country teacher feels reasonably sure that the commissioner will not appear on the scene again, and if she is like far too many, all the commissioner attempted in his visit is likely to be wasted. O, it does seem as if people are *so* slow in learning some things. They want no quacks for the *bodies* of their children. Public sentiment has crystallized into law on that point and every one says *amen*. How much longer shall educational quackery be tolerated? What a huge joke it would be for men to practice law or medicine two or three years to get money to enable them to study pedagogy!

"The greatest waste of time and money in our school system," says Mr. Swett, "comes from the employment of untrained teachers who finally learn to teach after a fashion, but who spoil a great many classes before they learn to teach at all. The true economy of school management is the employment of professionally educated teachers and the exclusion of itinerants and bunglers."

"I trust," says Mr. Philbrick, "that the time is not far distant when no teacher will be permitted to assume the responsibility of conducting a primary school who has not been first thoroughly trained to the art in a

model school." "Schools," says Mr. Swett again, "are improved only by the pressure of public opinion and cannot rise higher than the average intelligence of the community of which they are an outgrowth. Before there can be a supply of professional teachers, there must be some demand for them by the people whose children go to school. So long as there is a public disposition to regard school departments as charitable institutions where needy and politically useful persons can be respectably pensioned, just so long will it be impossible to secure professional teachers." And again: "The sheet-anchor of our hope for improvement is in the establishment by legal enactment that only those persons shall be eligible to secure teachers' certificates who, as a prerequisite, shall have graduated from a normal school or shall have pursued in some other school a satisfactory course in the science and art of teaching. In the outset, this plan can be carried into full effect only in the larger cities and towns. It will be impracticable to establish such a standard of attainments for a long time to come in the ungraded country schools, kept open only a part of the year; but to bring public sentiment up to this point should be the objective aim of every educator."

I think you will all agree that, in the main at least, Mr. Swett is right. Legislation can never very far precede public sentiment. Any attempt in that direction usually produces a harmful reaction. Get the best obtainable and pave the way for something better, is the dictate of experience. In their zeal to maintain all their democratic rights, people very frequently persist in standing in their own light. Take our miserable system of petty school districts as a sample. One might as well flaunt a red flag in the face of a bull as to talk "township unit" to a great many. The question comes then, how can we elevate public opinion to a higher level?

Here again we have a case in which an *effect* becomes in turn a *cause*. There will be better teaching, better preparation on the part of those that engage in it, when there is a demand for it. I know nothing that will so surely create that demand as good teaching itself. If I could prevail upon a district board to hire a first-class teacher and retain her for two years I should feel that I had the problem solved so far as that district is concerned. A poor teacher would never be tolerated there again. The atmosphere of the school would promptly drive her out. To the improvement of the teacher and the teaching, then, may we wisely direct our efforts.

Says the Journal of Education: "With all the elements of progress the fact remains that the school is, and must ever be, as it always has been, what the teacher is. With all the improvements in text-books, advance in methods, multiplication of devices, the school cannot be better than the teacher. There are many conditions and circumstance, relations and forces that may make or mar the teacher's work; but there is nothing that can make the school a success without a successful teacher. It is clear, then, that the mission of all educational forces, of all book makers and professional writers, of all school officials and public-spirited citizens, is to secure good teachers in the place of the poor and make all conditions such as to make all teachers and all teaching better." I need not spend a minute before you in showing that the teacher is the chief factor in the making of a successful school. We need better school houses; yes, but put your best teacher in your poorest house and your poorest teacher in the best house and in which will you have the better school? We need apparatus, but somehow the good teacher will compel that to come. It is in the power of a teacher almost to completely revolutionize public sentiment in a district in

a single year. I have seen it, you have seen it. "Seek first the kingdom of God and his righteousness," says the good Book, "and all these things shall be added unto you." Secure the earnest, competent, self-sacrificing teacher, and all other things will surely come. How shall we get such teachers, how retain them when we have them?

Teaching is never likely to be a profession, I suspect, until it is better paid. It will be better paid as it is better understood and appreciated. Every really good teacher is a missionary in opening the way for a better state of things, every term of her work a help. Institutes, associations, the reading circle, educational journals, everything that tends to arouse a professional spirit, should be gladly hailed. There should be more encouragement to make teaching a profession by providing for life certificates, valid the country over. Live, progressive teachers, having a reasonable standard of scholarship, should be excused from the "grind." Those that have no "time" to attend institutes or associations, no time to make preparation for their work, should have no time to teach. Those that cannot muster sufficient energy to climb to the second round of the ladder should, after a reasonable length of time, be gently helped down from the first. The law limiting the number of third grade certificates and ensuring some uniformity in those of the first grade, is a grand good thing; and I am glad we have a State Superintendent with sand enough to advocate and carry through such a measure, notwithstanding the adverse vote of this association.

In all this work of arousing a better professional spirit among the teachers, the members of the county board, especially the commissioner, may wield a potent influence. I believe the quickest, surest way to raise the standard of the teachers in any county is to raise the standard of the commissioner. The teachers will very largely take their spirit from him. If he is a commissioner "for revenue only," one need not be surprised to find very many of his teachers of the same pattern. Why need we expect teachers enthusiastically to hail any advance in their standard of requirements if we oppose any in our own? Would it not be more consistent to take the medicine first ourselves? Where is the consistency in demanding an experience of twelve month's successful teaching as one of the conditions of receiving a first grade certificate, and yet allow one that has never taught a day to supervise that work? Where is the consistency or sense in requiring such candidates to have a knowledge of geometry, botany, etc., and then have this work passed upon by an examiner that could not for his life get a third grade certificate anywhere?

I call your attention to the fact that a resolution introduced in this body one year ago demanding the holding of a third grade certificate as the condition of eligibility to the office of examiner, actually met with opposition. Just think of it! Though this was afterward incorporated into law, yet, through legislative botch-work, it was afterward repealed; and today all that is necessary to secure the office of examiner is to get on the sunny side of a board of supervisors. I understand that it costs some candidates a box of cigars; some perhaps less, some more.

I have no desire to become a subject of her majesty, queen Victoria, but I must confess that the more I know of the school system of Ontario, the more do I admire some things about it. It will be some time, I fear, before we shall reach that level in some respects. No one can enter a school room as teacher for a day without a reasonable amount of professional training. To be eligible to the office of public school inspector,

an office corresponding to commissioner in this State, one must be a graduate of the highest school of pedagogy in the province, and have had at least five year's experience in teaching. The examiners must, in like manner, be teachers of experience and graduates of the same school. Perhaps I am not sufficiently imbued with the democratic spirit and am lacking in faith in "the people;" but, democratic or not, I would like to see greater centralization in school affairs. I believe in a power that can do something. The law kindly permits no end of advising and counseling. One of the cheapest things in all the world is advice, and oftentimes one of the most useless. When the commissioner finds, as too often he does, that one of the outhouses in a district is a disgrace to any civilized community, and when he does his best to induce the director to do his duty and abate the nuisance, yet finds things still the same the next year, he longs for the power to compel something to be done. Perhaps it is this lack of faith that leads me to think that the change in the method of choosing members of county boards is a decided step backward. The old method was cumbersome and far from the best, but the present is decidedly worse. Nothing but the limited safeguard now surrounding the office of commissioner gives one any reason to hope even for fair results. The matter reaches back of the nominating convention. No party has outgrown the spoils idea. Were it not for this one safeguard, some of the best commissioners in Michigan would be retired, and their places supplied by some old party hacks, possibly by men who knew a schoolhouse when they saw it twenty years ago; and from all this class we may well pray to be delivered. Very likely none of you will agree with me, but I would have all these officers appointed by the State Board of Education.

Their political opinions should have no more to do with the choice than should the color of their hair. They should be the holders of first grade certificates or something better, and have had a successful experience in the school room; the commissioner of at least five years, the examiner two years. I see no reason for lowering this standard because a county happens to be new. If this county has no men able to obtain a certificate of the first grade, then certainly it should have no authority to issue any. To insist that members of county boards shall possess the highest grade of certificate they are authorized to issue, seems to me only the dictate of common sense. Is it asking too much that these men be teachers? Do we usually have a committee of farmers or butchers to examine doctors and lawyers? As I would place in the hands of this State board the authority to appoint these men, so would I give them the power and make it their duty peremptorily to remove any drone from office. Some of you know how nearly county supervision came to the point of shipwreck three years ago. If the people shall ever demand the repeal of this law, it will be because of the do-nothings. The men that practice law during all the pleasant weather and attend to school duties rainy days and odd spells, should be promptly given the "grand bounce." If the work in the newer counties is not sufficient to warrant the employment of a competent man, then I believe it would be better to unite two or more counties for that purpose. The important part that the commissioner should play in our school system has led me to give this much space to that official.

As I understand it, there is not a state in the union where any professional training is demanded as the condition of teaching, yet many of them offer reasonable inducements to teachers to undertake such training. In the facilities it furnishes for the education of teachers, our State is on

a par with many others; ahead of some of them, I presume; certainly behind others. New York has eleven normal schools. Wisconsin, a state no wealthier than Michigan, has already five in operation and provision made for two more at an early day; yet we are vainly knocking at the door of our legislature for a second one. Directly, one normal school does little for the country schools. Very few of its graduates or students are found in the ranks of the country teachers. Indirectly it can, and I believe does, do much. As members of county boards, teachers in cities and villages, institute instructors, etc., its graduates can do much in arousing professional enthusiasm and in shaping public opinion. Each should be a center of influence wherever found. The authority given the University and the provision recently made concerning many of the colleges, whereby a high grade of certificate may be conferred upon the completion of a certain amount of professional work, will doubtless have its effect. The weak point is that the instruction must of necessity be a matter of theory and afford no field for actual practice. Except as noted above, this also will do nothing for the country schools. What then can be done? Two plans suggest themselves to me and I respectfully offer them for your candid consideration.

For almost sixty years New York has had a plan now somewhat similar to the "County Model Schools" of Ontario. In 1889, under the far-seeing eye of Supt. Draper, the control of the matter was transferred from the Board of Regents to the State Superintendent. That official each year designates a number of union schools and academies in which training classes shall be held, the same being distributed to meet the needs of the schools and reference being had to the equipment of the school to give proper instruction. The course continues through a term of sixteen weeks, the number in the class being limited to twenty-five. Such instruction is free to the pupils, the institution receiving from the state one dollar per week for each pupil, $60,000 being appropriated for that purpose. The instruction is quite largely professional, including observation and practice work in primary teaching. The training of these classes is subject to the rigid examination of a state inspector, and the commissioner is charged with the duty of assisting in the organization and management of these classes. The work is at all times open to his inspection. Attendance upon these classes is not compulsory, but a premium is put upon such attendance by counting it as time actually spent in teaching in securing a higher grade of certificate. That it has its effect is shown from the fact that, out of 13,348 certificates issued in 1892, 5,530, or over 45 per cent, were of the second grade; while in our own State the same year the second grades were but a trifle over 6 per cent of the entire number, a showing not very complimentary to us. From the statistics furnished by the State Superintendent's report, it seems that the attendance upon these classes is steadily increasing. In 1891–2 the number of classes organized was 159, with an attendance of 2,530, while for 1892–3 there were 195 classes with an enrollment of 2,942. One of the state inspectors, Mr. John L. Sweeny, in his report to the State Superintendent, says: "The necessity of some instruction in the theory and practice of teaching among a large class of men and women who have taught but little or desire to commence but cannot afford the expense of a normal school course, is quite large. The training classes in a very great manner supply this demand, and our rural schools secure more direct good than from any other source. A comparison of the rural schools of ten years ago with the rural schools of today will demonstrate

this fact, and in a very great measure this is directly attributable to the work of training classes." "Reports of inspectors and commissioners alike," says the State Superintendent, "indicate that the State is certain to receive great benefit through these classes, for the amount of money expended, in the better equipment of teachers for the common schools, where the need of better teachers is most apparent." Supt. Draper says that the cost of maintaining 120 of these training classes is no greater than that of one normal school, and the comparative number reached is readily seen. Furthermore, many that enter these classes are thereby encouraged to push on to a higher professional course. Of course the chief drawback to the success of such a plan in this State, as anywhere else, must be the difficulty of finding competent instructors. "The number of graduates sent out each year from our normal schools," says Supt. Crooker, "is ample to furnish competent and thoroughly trained teachers to take charge of these classes." Doubtless only a limited number of these classes could be established on the start, but I believe the supply would come with the demand. It seems to me the plan is entirely practical and within our reach at an early day.

The other measure to which I referred is an institute continuing through at least six weeks, attendance upon which should be compulsory and one of the conditions of receiving any certificate to teach. I do not wish to be understood as advocating the abandonment of the institute with the other plan. That should remain and supplement the other, certainly. Here again we are confronted with the difficulty of obtaining efficient instructors for these institutes, but I believe it would soon be met. With either, there should be a prescribed minimum of professional reading, and the examinations should be the means of enforcing this reading.

A few more words and I am done. In our hands, commissioners, is placed a most solemn and important trust. By all the love and duty we owe the children for whom we labor, let us be true to that trust. We can do much, I am sure, in hastening the day when we shall have a better order of things. The time should be near at hand when it will be felt that it is far better to educate teachers under the eye of skillful instructors, rather than by the slow, uncertain path of solitary experiment. The children ought not much longer to be the subjects of this malpractice. The money worse than wasted in educating teachers by this tedious process will pay all the expenses of a better way. The Superintendent of Public Instruction in Michigan that desires to immortalize himself, has here a golden opportunity. It doesn't require extraordinary abilities to appoint a visiting committee to a college; for the city and village schools, he can do little; to build up and make better these country schools, it seems to me, is his chief work. The Superintendent that can crystallize into law two things can have a monument, if not in marble, at least in something far more enduring—in the gratitude of the girls and the boys of Michigan. If he will place a library of good books in every school house in the State and, what is perhaps far more important, see to it that there shall never enter these houses as teacher one who has not been trained for that work, he will make his calling and election sure. I say the State of Michigan is rich enough to give us the former now, and that the latter should come at no distant day. If the State is to say that every child must be educated, then I say that it is the duty of the State to see that that work is properly done. God bless the common schools of our beloved State and every agency that is employed to make them better.

"HAS THE ATTEMPT TO GRADE COUNTRY SCHOOLS PROVED A SUCCESS?"

BY COMMISSIONER P. M. BROWN, MECOSTA COUNTY.

Mr. Chairman and Fellow Commissioners:

We have before us a question. With this one we will venture to ask another, and endeavor to answer them both before closing the discussion.

If grading the schools has resulted in a failure, has it failed because grading is an impractical thing to do, though an earnest effort has been made to grade them; or has it failed because it has not received the support due its merits, or perhaps has not been wisely directed by those who have had the work in hand to do?

I answer the first question, "Has grading proved a success?" without hesitation and emphatically, it has proved to be a grand success in most of the counties of the state. It is also doubtless true that, in a few localities, it has failed to secure the needed support; and in some instances it has failed of success for the want of skill on the part of the workers.

But before going farther we should have it clearly understood what is meant by "grading" the schools, and just how much we mean by the word "success" when used in this connection.

I understand grading a school to be the work of the teacher in assigning to each pupil in each of the studies the appropriate work for him to do. And this is not a work that admits of carelessness on the part of the teacher by any means, whether it is in a country school or for admission of pupils from country to city schools. Parents are anxious at this point, and pupils are justly entitled to a proper credit for the least honest effort made in the past to succeed.

I believe a pupil in a country school should be graded where the most of his studies are. That is, if he have five studies and is able to do the work of three of them as given in fifth grades in the manual, he is a fifth grade pupil, whether his other two studies are in second or eighth grade.

One of the first objects of grading is to secure for each pupil a thorough understanding of *all* instead of a *few* of the common branches. An experience of fourteen years in the ungraded schools of New York has produced with me a telling effect in the direction of preference for the graded schools of Michigan.

Having said a little in explaining and favoring the graded system, we leave for the present this part of the subject to inquire what is meant by "success."

We cannot always judge of the success of a thing by what it does some part of the time, but by what it accomplishes during the whole time it is in operation. Not by a few defects, but by the much it does without defect. The horse that follows the race course may make a bad start, plunge and make many bad breaks in the first part of the race, but we judge of his success by what he does in the whole race.

A man's life may have many flaws in it. It may indeed have months and even years that seem to be fatal failures, and yet be a truly successful one.

Our city schools, our normal training schools, our universities and colleges have defects in their work, or at least seeming defects. And yet what power they possess for imparting aid to all who seek it.

May not the same be said of grading? Those that oppose it may point out glaring inequalities, repeat and emphasize impossibilities; they may point out defects in the plan and management of the work, and their adverse criticism may have elements of truth in them, but the advocates of grading, which includes nearly everybody that has given the subject anything like a fair examination, do not claim perfection for the system. They claim that, though it may not work for the best interest of all pupils, in all places and under all circumstances, it does for nearly all.

I said it might not work for the best interest of all, in all places and under all circumstances. But the system even then may not be at fault. You may place the best formulated system of housekeeping in the hands of some housekeepers, and it is nothing to them. They have no use for it. Their surroundings show that they have no desire for system.

We know farmers who are late with their spring work, late with haying and harvesting, behind with fall work, behind with taxes, and woefully behind in securing a livelihood for their families. And yet they have instances of systematic farming on every side of them. No use for system, though it would contribute so much to their welfare. So in districts. You have in your county and I have in mine, a large number of districts, perhaps a large majority of them, who say, "Go ahead with your grading; if it is a good thing for us to have, we want it."

But some may have districts of a different character. Districts that that have three prevailing desires:

1. They desire to escape all possible expense for books, paper, and other indispensable apparatus for use in the school room.
2. They desire to hire the cheapest teacher that can be found.
3. They desire to support a school the least number of months that a school can be held to secure the public money.

THESE THREE—but the greatest of these is to "draw the public money."

In such districts it would require but little argument to show that grading has not proved a success.

With these random suggestions relating to the terms "grading" and "success" as found in our question, we shall endeavor to give direct and conclusive evidence showing that grading has proved a most gratifying success. In order to do this, a brief history of the work in Mecosta county will be given. And from information gained by acquaintance with the many loyal teachers that have come to us from other counties, I am thoroughly convinced that very many other counties can make as good, if not a better, showing than we.

In 1889 we were directed by the county manual, and two pupils passed the work of the eighth grade and received the diploma. In 1890 very many doubts existed in many localities as to the final success or failure of the undertaking. A great effort was made to convince the people. The teachers accepted it almost unanimously, and rendered the best of assistance in convincing others. Two only received the diploma in 1890. In 1891 there were thirty-eight. In 1892 there were eighteen. In 1893 there were sixty-three, and a good number have signified their intention to write in 1894.

Over eighty per cent of those that received diplomas prior to 1893, have entered the public or Industrial school in Big Rapids to continue their studies. Some of them bid fair to stand side by side with our best teachers.

In a large majority of districts the work has been fully as successful

as the most hopeful could anticipate. In a few this has not been the case.

We avoid making a hobby of grading. In districts where circumstances have not been favorable, we have accepted the situation and done our best, and much good work has been done in these districts.

A supply of State manuals and graded registers is kept constantly on hand, and in reply to a question in a circular issued in October of this year, asking teachers if they found the registers in good condition and whether they understood how to leave them so, over seventy-five per cent were in the affirmative.

At the close of the present school year in July, I determined to ascertain the sentiment of those connected with school work in relation to grading. Accordingly a circular was issued to those that passed for diplomas but never taught, to those that had received diplomas and taught, and to teachers of more experience.

Following are a few replies or extracts from them:

FROM THOSE THAT HAVE RECEIVED DIPLOMAS, BUT HAVE NOT TAUGHT.

Mr. P. M. BROWN, Big Rapids, Mich.:

DEAR SIR—In answer to your request can say that I have been very much benefited by the graded work.

In a non-graded school some of the very brightest students are kept back year after year for others. In graded schools the bright pupil has a chance to push ahead evenly in all of his or her studies.

I have taught none since or before receiving a diploma.

Sincerely yours,

G. F. BURTCH.

Miss JESSIE REED—I was very much pleased with my diploma, and think it has encouraged me in my studies.

Miss BELLE SPARKS—In reply to your circular would say that I think the graded work a success. I am sure it helped me very much in my school work. I have never taught, so have had no experience in grading a school.

Miss MAY HARRINGTON—In answer to your letter requesting me to write a few lines in regard to grading, I can say that I have finished the course and am well pleased with the plan of grading. It inspires a pupil to do better work than if the school was ungraded, because the work is laid out and a pupil knows just what is expected of him, and he will try to do it and do it better than if he went through the book in a haphazard way.

FROM THOSE THAT HAVE RECEIVED DIPLOMAS AND TAUGHT.

Miss LIZZIE DICKSON—As a reply to your letter in regard to the grading, I would say that many benefits may be derived.

Some backward pupils can be encouraged to work, in order to be promoted with others of the same age. There is another class of pupils who do not go to school with any particular aim, who will have something to work for while there. Another feature which I like is the uniformity created in the different schools of the county, if the teachers follow the manual. If a pupil removes to some other district, the teacher will have no trouble in getting him to work in the proper place. Of course we must expect to find some difficulties. Those which I have found are irregularity in attendance and the securing of uniform text books, the first mentioned being the greater. These are the reasons for grading and the obstacles which I see, through my own experience.

Miss BLANCHE BOVAY—I think that grading the schools has been a great benefit to the pupils of Mecosta county. Pupils are apt to be better educated before leaving school if the schools are graded; for if a child has something to aim at, as finishing his studies in a district school room, he will be more interested, and in general, I think, will try to finish the course. I think pupils will be more interested in learning their lessons

thoroughly when they have examinations frequently; they will have a knowledge of all the branches of study, not only of two or three, as has been the case in ungraded schools. They will be more prompt in attendance at school. An obstacle I have met in the work is a dull pupil in a class with three or four bright pupils; also, pupils not attending school regularly and pupils having different kinds of books.

Mrs. IDA REDDING—I have found by experience in school work, that a graded school has many advantages above a school not graded.

I found that it secured regular attendance, as each pupil was anxious to keep up in his grade.

I think that it encourages the pupils, for they can see at the close of each year what they have gained.

Miss MYRNIA CARTWRIGHT—I received your letter wishing a reply in regard to the graded work in school.

I think it very beneficial to both the teacher and pupil.

In my last school I found it a great help; also the classification register is a grand book for a teacher in a strange school and place.

Miss EDNA STEVENS—As I have attended and taught in graded and ungraded schools, I should by all means encourage the grading of our district schools.

It creates a greater interest in the studies.

The attendance is more regular and advancement is made more rapidly.

I have found the system in the work of the graded schools a great superiority.

Miss JENNIE BRINK—With regard to the benefit grading has been to our district schools, I can truly say I think it has proved highly beneficial in every way.

In my experience I have found it to be the means of more regular attendance and much better work from the pupils.

FROM TEACHERS.

Mrs. MARY BENSCOTER—In reply to your letter of August 1, will say my experience of the benefits of grading in district schools is:

Benefit to teacher; harder work, because more thorough, but better showing at the end of, or at any time through, the term.

Parents are more particular not to keep children at home to do chores and help work, unless it is very necessary, as it would hurt their pride for their children to be behind in their studies when examination day comes.

The benefits overbalance the obstacles both in the knowledge obtained by the pupil, and in the pride of parent, teacher, and pupil on graduation day, and the consciousness of hard, earnest work, well done.

I have had eight years' experience teaching ungraded schools and three years experience teaching in graded schools.

Mr. G. L. NORCROSS—I answer your request of 1st inst. to-day. Can say that grading is a benefit in several ways:

First, it gives the pupil something to work for. I find he will work continually to excel his present condition, not through a selfish motive, nor to boast of his superiority over the remainder of his class, but that he might reach a higher grade. Second, it gives uniform class work.

The only obstacle is backward pupils who drop in for only a few weeks at a time, are unable to keep up with the grade of their age. But that will be found in any school, whether graded or not.

ARTHUR BUTLER—It is with pleasure I speak of the benefits derived from our grading system. After three years of careful study and experience in the graded work, I can say it has proven a grand success.

The pupils are inspired with the thought that they have a definite course laid down for them and that they are not required to pass over the work that has once been thoroughly canvassed, and are led to do better and higher work. I know it has increased my daily attendance and made my work much easier. I think the greatest hindrance is the inability of some pupils to attend only a part of the year.

Mrs. ISABELLA KATEN—In reply to yours of 1st inst. would say that, in my experience, grading the schools is a positive success.

It simplifies the classification, thus enabling the teacher to give more time to each class.

It interests the pupils and secures more regular attendance, and they are always very anxious to finish the grade and receive a promotion card.

It encourages pupils to remain in school and also to do good work, as they are credited each term with the work done; and when teachers are changed frequently, it does away with the aimless work done formerly, because a teacher can now go into a school and, by the report of her predecessor, tell just what work each grade has been given credit for.

The schools advance more rapidly and do better work because the pupils know that, when they have thoroughly mastered the work of that grade, they will be promoted. This is a great stimulus to the schools and will keep many in school to finish the course.

The greatest obstacle is irregular attendance; but that I am assured may be overcome by persistent effort on part of teachers, who must endeavor to interest parents by making them better acquainted with the graded system and what we are endeavoring to do for their children.

I am satisfied that the very best results are beginning to be realized and each year will increase those results.

Miss EMMA HALPIN—In reply to your letter asking the result of my experience in grading, I would say that, after the grading of a school, I found the attendance better, more interest in school work in both pupil and parent, and that pupil and teacher could work to a much better advantage.

Some of the obstacles I have met are the desires of pupils to take higher grade work than they are capable of doing, unwillingness to study all the branches required in the grade, and irregularity in attendance. But by time and patience these difficulties are overcome.

Mr. P. N. SAWYER—Having been requested to give my opinion in regard to the benefits to be derived from the grading of district schools, I take this opportunity of expressing some of the results of my observation and experience along that line.

There are several reasons why I am today an advocate of the system of grading for all the schools. Chief among those reasons are the following:

First, it produces regular and systematic work. I need but consult my own experience to warrant me in saying that this result is not obtained in the ungraded schools. I can distinctly remember that in the ungraded district school which I attended, arithmethic and one or two other studies were strongly emphasized, while language, grammar, civil government, and other important subjects were sadly neglected. To grade the school, remedies to a great degree this error. Pupils know that, when they enter a certain grade, they will be required to take up certain subjects not studied before. Consequently they will be prepared for this and will be willing to study any subject outlined by the grade to which they are promoted. In this way each study will be taken up at the proper time, and the pupil will receive instruction in subjects which have heretofore been more or less neglected;

Second. the work will be more thorough. Pupils realize that a certain amount of work is to be done during a term or a year. This tends towards thoroughness. The pupils will be more anxious to do good work in arithmetic and in other subjects, if they know that next year, if competent, they are to go on and not be compelled to go over the same work again, as is too frequently the case in the ungraded schools. This annual repetition, this yearly drill upon topics with which the pupils are perfectly familiar, tends to discourage them and to rob school life of much of its interest, making it dull and monotonous. This fault is largely corrected when the school has been graded and each year has its specific and well outlined work to be thoroughly accomplished,

Third, it creates healthy competition. Children do not like to be excelled by their classmates. If there is a definite object in view each pupil will strive to attain that object. His attention will be held more closely to the work that is required of him. He will enter into a healthy competition with the pupils of his grade. He will see that if he does his work well, promotion awaits him at the end of the year. He does not wish to be behind in his studies. He is anxious at least to equal his classmates. Hence better study, increased interest, and a much more enthusiastic school are the direct results. Even the problem of government will have been solved in a school where the pupils are interested in their work and have a desire to do their very best;

Fourth, systematic development of the human powers. This is the grand object and aim of education. This is the great result which we as teachers wish to accomplish. And any system of school management that tends towards this result is worthy the careful consideration of all who are interested in the progress and advancement of

schools and of education. We believe that the grading of district schools is a step in the right direction; that it is an important factor in the accomplishment of this great result, as it is only in the graded schools, where each study occupies its particular time and place, that we can to the best advantage train and develop the human faculties.

About the only objection to the grading of district schools that I have met in my experience is the irregularity of attendance on the part of the pupils. Parents are sometimes inclined to say that grading cannot be made a success on that account. But even this objection is gradually growing less frequent, I think. In truth, one of the very fruits of this objection is that the children are more anxious to be in school, and will strive harder, as a rule, to be present in a graded than an ungraded school. Hence even the problem of irregular attendance is helped to be solved by the workings of this system of grading.

In conclusion, I will say that I have not enumerated all of the benefits to be derived from the graded school system. Others might be mentioned. I have, however, named what I consider the most important.

F. P. Scott—Having been engaged in the work of teaching in Mecosta county during the past three years, and noting the deep interest that has been taken in grading the country schools, I feel free to say that so good an incentive has never before been brought to bear in the schools of Michigan.

Even the work of holding examinations at certain intervals, and being surrounded by a group of pupils eager to know their standing, is sure to thrill with joy the heart of an enthusiastic teacher; but this grand State of ours has gone farther than this, and has seen fit to give to all those pupils passing the eighth grade a diploma that will stand as a bright and shining mark in the years to come. While students should not place too much stress upon the honor that this may bring them, they should point with pride to the educational leaders of this grand and good old State of Michigan.

Miss Maggie McCallum—In a graded school pupils advance more rapidly than they did by our old ungraded system, where the pupil was put back to the front part of the book nearly every term, and had to take over and over that part of the book he had studied. They would have a new teacher nearly every term, and in some instances a new teacher every term. In the graded school the teacher has a register to put down the page where each pupil left off in each book at the end of the term, and to begin there at the commencement of the next. This prevents a change of teachers every term, and all pupils know what grade they are in and how they stand in their grade.

One obstacle I have found in grading was irregular attendance, which I have overcome to quite an extent by having the pupil take up all the lessons he has lost. In that way he will take his books home with him to study in the evening, if he knows that he will have to be absent for a few days. Then, again, one pupil in the same grade is not so bright as another pupil; the teacher has to use a great deal of care to help the pupil not so bright, at intermissions sometimes, or after school, so he will not find it so hard to keep up with his grade, and in that way the teacher can overcome it to quite an extent. These are about the only obstacles I have found, but I think in a district where the text-books are not alike the teacher would find it very hard to grade it. But we as teachers know if we have discouraging things, we have many encouraging things, and especially in a graded school.

In conclusion I would say that I have taught both in graded and ungraded schools, and I would advise a district board to grade their school.

From what has been said, let no one get the idea that in Mecosta county every sail is always up and every breeze a favorable one; but in this, as in all school work, nothing but thoroughness, vigilance, and untiring watchfulness secures success.

DISCUSSION.

Opened by Commr. E. A. Murphy, Ionia county:

I did not anticipate the contents of Mr. Brown's paper so far as to formulate my remarks in writing. This, however, would be inconsistent with my idea of a discussion.

I remember well that, during may infancy as an instructor, many of you at these meetings were discussing the theory of grading the district schools. I presume the purpose of this present discussion is to determine whether the work of grading, or the *attempt* to grade, is so far favorable. Whether the truth has been fully demonstrated; whether it is desirable to grade the rural schools. Heretofore the discussions at these

meetings have been theoretical; now they must be practical. We find ourselves confronted by a condition, not a theory. What is the condition? In the settlement of this question, I trust that we, as teachers, will be more sincere to our constituents than our national legislators are.

Representing as I do the county of Ionia, I can say that here the grading of schools has been an unqualified success. I believe no section of the State presents better conditions or more favorable ones for a true test of the success of grading in the district schools. What I mean by favorable conditions is that this section of the State has all the favorable as well as the unfavorable conditions.

In the grading of the district schools, we might divide the subject by saying that grading is one thing and the incidents of grading another. Grading is the cause, and the greatest amount of good is the effect. The subject, "Has the attempt to grade the country schools proved a success?", is a difficult one. I am critical in regard to the word "attempt." Has the *grading* of schools been a failure? There is probably hardly a school in all the counties of the main part of the State but what has been graded, but whether they have held out or not is another question.

What I understand by grading is nothing more than a grouping together of pupils and applying to them a certain systematic course of study. Has that grading been a success? As far as we are concerned, it has been a great success in our section of the State, and I can speak for all the surrounding counties. We see vast improvement in the pupils. Formerly a pupil would study reading and arithmetic, or reading and penmanship, but no regular, systematic course. Today in nine tenths of the schools of this section there is scarcely a pupil that is not studying most of the common branches. That is the result of grading, and it shows that simply the grading has been a success.

Five or six years ago, at the time of first attempting to grade, the farmer was wont to leave his plow as the first snows of winter came and go to the school house, where he reigned during the winter; with the warm days of spring he went back to the field, resigning his position to the dapper little school ma'am of sixteen summers, who reigned during the hot summer months; and the schools were supplied with a variety of text-books. But in this section of the State it was early seen that, in order to adopt a course of study and carry it out, we must have a uniformity of text-books. Today, if we have not a uniformity of text-books, we have generally the same kind.

Another result is the uniformity of school terms. We had the four months' winter term and the three months' summer term; now we have the nine months' term. Another result is that, if the adopted course of study is carried out, we must have the same teacher; so the same teacher is employed now for one or more years. Still another result of the adoption of the course of study is that the patrons understand the work of the school much better. A few days ago a school officer came to me and asked whether it was advisable to add a ninth grade to their course, and in investigating the case I was surprised at the knowledge that this school board showed in the grading of their school. They could easily see that about all the work their teacher could manage was the eight grades already in the school. Another time I was stopped by a patron who complained that his little boy was kept back in reading. In asking questions I found he had been in the district but a short time, and that about all his little boy ever studied was reading. I explained to him that the teacher took a kindly interest in his boy, that she wanted to give his boy a systematic education, and made him see that it was best

Mr. Brown says the only objection to grading is in the irregularity of attendance. I believe that, where the teacher thoroughly understands the grading of school, irregular attendance need not create any objection. If pupils stay out I would let them fall into the classes where they naturally would. If they get behind, place them a grade back. Before closing I wish to call attention to the incompetency of the present school law. I think the present school law was wisely made, but do not believe it was made to guard the grading of our district schools. I believe that grading has reached the highest point it can under the present school law. This grading is a creature of the educators of the State, and as this generation passes away it will need some better support than it now has. In order that that this grading be established as a part of our school system, there must be some legislation to this purpose. We find that our laws are simply permissive, not mandatory. There should be something that would make this mandatory, and I hope there will be some legislation to this effect.

ORR SCHURTZ, Grand Rapids:

I am very glad indeed to hear what I have heard this afternoon. Remembering the hard work that I put in for four years, I have listened to what you have said with a great deal of pleasure.

There is certainly something in it when a man like Mr. Brown, who has followed this work for several years, investigated it, seen it in all its phases, when one as capable

as he, is able to stand before a body of men and women to bear testimony to the fact that grading has been a success in at least one county of the State. And when I see stand before this assembly a man who was not in the work when some of the older ones were, also testifying that in another county grading has been a success; when I look around and see the many commissioners who were secretaries at that time, and know these men would bear witness very forcibly to the same thing, certainly it is an impressive fact

I will say to the commissioners and secretaries of this State that I never had a more lively interest in this question than I have today. Sometimes I think you meet with no more obstacles in the grading of country schools than we meet in the grading of the city schools. You think, no doubt, that if you could step into the city schools you would find it all smooth sailing. Constantly these same perplexing questions meet us in graded schools. This is a hint for your encouragement.

I wish to say that I am sure, I feel that there can be no possible doubt about it, that when once this system has established itself in this State of Michigan, it will become a permanent success. I cannot persuade myself that the time can possibly come when this grading, this work that has been done, will come to naught and the old system of affairs reign in the district schools. Everything points to the time when district schools will be graded even more than they are today; when the training of teachers of district schools will be a most important thing. I then sincerely believe the time will come when, through a demand from the public, the teachers who do the work of the district schools will be a trained and well prepared body of men and women.

COMMR. FIELD of Lenawee:

So far as Lenawee is concerned, I believe that grading is something that has come to stay. I think that, with most of us, the grading of country schools has been a success. Of course that term is used relatively. There are many things that are not up to the standard, not up to our ideal; but to give it up would be a grand mistake.

COMMR. ALLEN of Monroe:

I think our experience in Monroe county shows how grading has advanced during the past four years. In 1889 a course was put into our schools with Welch's classification register. In 1890 there was a change of secretary and nothing done to advance the work. In 1891 the course of study was enforced and many obstacles met and overcome. In 1892 there were thirty-five applicants at the central examination and nine to secure diplomas. For 1893 the applicants for central examination numbered ninety-five, and the result of this grading has not only tended to uniformity of text books, but our county shows an increase of forty-five per cent in the number of district schools that employ the teacher for the year, and an increase of fifty per cent in the attendance of teachers at county institutes. It has also secured a closer relationship of teachers, school officers, and parents, and an almost unanimous support of this system by the teachers.

EXAMINATIONS AND PROMOTIONS IN THE COUNTRY SCHOOLS.

COMMISSIONER A. G. RANDALL, CALHOUN COUNTY.

There is little opportunity for rhetorical display, figures of speech, or poetical sentiment in the discussion of the subject of this paper.

Examinations, as a test of a pupil's advancement, or a student's scholarship, have been denounced by many modern pedagogues as a delusion and a snare. It has become quite the proper thing for a certain class of educators to attack methods and ideas that smack of age and custom, under the euphonious title, "The New Education."

Teachers, above all others, should prove all things and hold fast to that which is good. The examination test has its weak phases and it is principally against these vulnerable points that attacks upon it are made. It comes with bad grace and savors of quackery to attack old customs, without suggesting better and wiser ones. A method may be faulty, but at the same time possess a vast preponderance of merit. So it would seem the "examination fogyism," as it has been designated, has undergone its crucial period and come out of the contest, stripped of many fallacies, but more strongly fortified in its inherent virtues.

Whatever arguments are urged against examinations in the city schools, they are groundless as applied to the country schools, because the practice has but recently come into vogue. With the adoption of the State course of study, comes the necessity for a test that shall serve as a basis for promotion of pupils from grade to grade. By tacit consent that test has come to mean the written examination. As might be expected, the plan does not meet with the approval of all teachers, and these by no means a small minority. It is noteworthy, however, that the opposition comes from one of the three following classes. Those that have an inherited disposition to avoid work; those that lack the courage and tact to make the test acceptable and successful; those that are indifferent and motiveless in school work. It is none too radical to state that representatives of any one of these classes have no business in the school room, and any sort of a test they might make would be a delusion and a snare.

An examination is as much a test of a teacher's methods as it is of a pupil's knowledge and advancement, hence it is vastly important that the teacher have correct views of education and the end to be attained by a course of study. Written examinations are necessary because all other tests are partial and imperfect. The daily record, if such a record be kept, and unfortunately it often is, shows simply the teacher's estimate of a pupil's recitation upon a single theme, and for a brief moment. The pupil recites his portion of the lesson, gets his mark, and dismisses the balance of the recitation from mind and memory. Oral examinations lack uniformity, and afford very unsatisfactory data upon which to estimate a pupil's proficiency. Then again, oral examinations, to be fair and comprehensive, would require that each candidate be examined alone, causing a great and unnecessary loss of time.

Let it be granted, then, that we are to have written examinations in country schools. How shall they be conducted? How often shall they be held? How shall the questions be prepared? How shall the papers be marked? At the risk of being commonplace, we shall attempt to answer some of these questions. It goes without saying that an examination should be systematic and honest. In order to be systematic, pupils should be required to use uniform paper, and to write with pen and ink. This will require forethought and preparation upon the part of the teacher. By becoming the custodian of the pupils' pennies the teacher can purchase suitable paper with printed heading, good pens, ink, blotters, and other necessaries, at an actual saving of money to the children. In some cases district boards can be induced to furnish such supplies at public expense.

It should be borne in mind, at the very outset, that an examination is educational as well as inquisitory—a developing as well as a drawing out process. It is important, then, that pupils be taught system, exactness, tidiness, and conciseness in the expression of their ideas upon paper. But how shall the examination be conducted honestly; for unless it is so conducted, it were better omitted. A test that puts a premium upon trickery, deceit, and a base sort of cunning so frequently exhibited by certain specimens of the human family, is intolerable and vicious in the extreme, and should be banished from the school room. The examination in the hands of a poor teacher may, and frequently does, prove a positive curse to the morals of a school. What wonder that the sense of justice is violated in the minds of conscientious pupils, when their less scrupulous classmates receive high per cents in examination through fraud and delib-

erate cheating! What wonder that they gradually lower their estimate of truth, when falsehood brings quicker and larger returns in the market. An honest examination without honest teaching is impossible, because the two are so closely allied as to be inseparable.

If the teaching has been of a character to repress originality or to load the child's mind with a mass of dead facts and technicalities, the examination will simply call up a mass of undigested material for dress parade. Knowing that facts are wanted, and that facts alone count, the pupil gets his facts as best he can—sometimes from his overburdened memory, many times from handy data arranged for emergency, and often by ways that are dark and tricks that are mean. Fair means or foul, so long as the desired end is reached—a high per cent. It is this shameless abuse of the examination test that has aroused such wide spread criticism.

The true object of an examination is to test the thought power of an applicant, and to cultivate the power of expressing his ideas consecutively and in good English. It is far too frequently used as a mental emetic, and the undigested material brought to light, taken as evidence of mind growth and development. Such use, or rather abuse, of the examination is the most reprehensible kind of educational quackery, whether practiced by teachers in the country schools or others higher in the profession. The food that we eat must become flesh of our flesh and bone of our bone, otherwise our physical stature will not be increased a hair's breadth. The fact that the stomach is gorged with an accumulation of undigested material affords no satisfactory evidence of the strength of the muscles. The strength of a man is determined by what he can lift, not by the weight of his stomach. So with the mind. The ability to think, to reason, to observe, is the true evidence of mental growth and strength, and such ability can never be tested by stereotyped questions and answers.

This leads us to the question, how should the examination questions be prepared. The most satisfactory results will never be obtained until the questions are prepared and furnished by the commissioner; better still, perhaps, by the Department of Public Instruction. If this is thought to be impracticable, a few suggestions as to what plan should guide the teachers in their preparation will not be out of place.

First, the questions should not be of such a character as to require exact text book phraseology in answering them; neither should they be so framed as to call up some pet theory, peculiar to the teacher or to some author. They should aim to make the pupil think, and reduce what he has learned to practice. Further, they should stimulate his power of discrimination, and give abundant scope for originality, without which all of his time and labor spent in their consideration will be wasted.

Second, it requires as much discretion in marking papers as in the preparation of examination questions. Both phases of the work must be done intelligently. A paper should be estimated as a whole, as well as by paragraphs.

Exact answers in the language of the text book, should never receive as high credit as answers given in a pupil's own words, other things being equal. The highest degree of merit in an examination will appear in the conciseness and clearness with which a pupil expresses his own ideas, and not the ideas of his book or teacher. Composition, penmanship, orthography, arrangement, accuracy, and neatness, should receive due credit in every paper upon every topic. Misspelled words and ungrammatical phrases are as intolerable in arithmetic as in grammar. This point we would

especially emphasize, that a pupil's knowledge is being tested in every line that he writes and must be judged in its entirety. When teachers and examiners rise to a just appreciation of this idea, the written examination will have disarmed many of its worst opponents. In the marking of papers errors of all kinds will be noted by the teacher in such a way as to arrest the attention of the pupil, and lead him to correct the same. The more important mistakes should be brought up and discussed by the entire grade. Above all, fictitious marking should be avoided as designed to mislead and deceive. A pupil should receive just what he merits, nothing more. One of the surest evidences of careless examinations, is to see on a pupil's record whole rows of 100, 99, etc. The temptation to high rating is one which the average teacher finds it hard to resist, and the evil, once introduced, soon becomes intrenched. Papers should be marked promptly and results reported to both parents and pupils. All work should be arranged by topics, with the examination questions attached, and filed for reference during the term. At the close of the term, pupils should be permitted to claim their papers and retain them permanently. The teacher should be as careful and methodical in the preparation of the questions, marking of papers, arrangement of the work, etc., as he wishes his pupils to be in their part of the work.

Third, there is one all important truth to be kept constantly in mind in the matter of examinations and promotions. The school exists for the pupil and not the pupil for the school. This truth is too frequently reversed and children are sacrificed to rules and grades and courses of study. The machine is deified and a pupil must succumb though his bones crack. Is it not everlastingty true that a child is of more consequence than all of the rules, creeds, and theories promulgated since the world began? There is just as much sense in running boys and girls through a turning lathe, to reduce them to the same physical proportions as there is in feeding them into an educational machine to make them conform to the same mental stature. Nature is a wise schoolmaster, and we might profit immensely by studying her methods more thoughtfully. But you would not promote a pupil from one grade to another who failed to pass the required per cent, would you? To this I answer yes and no. Yes, if his failure is the result of emergencies and obstacles over which he had no control, such as sickness, unavoidable absence, lack of natural endowment. Yes, if his school history showed him to be a zealous pupil, courteous, honest, and faithful. Such a pupil should be given a passing grade, if his per cent is below the ideal established. This may be rank heresy and challenge the criticism of those who swear by the records, but it is our gospel and we are willing to be judged by it. If the idea of an examination is solely to ascertain how much brain a pupil has, or how much more nature and circumstances have favored him than they have a fellow classmate, then the principle may be wrong; but, if the examination is to recognize character and all that goes to make up manliness and womanliness, the sole cause for which the public schools exist, then the principle is right and just. On the other hand, if the pupil's chief aim has been to see how *little* he could do and by hook or crook squeeze through the examination, I would be as merciless as fate in marking his papers. Why? Simply because any other plan would be a premium upon the basest elements of his nature, such as laziness, trickery, lawlessness, indifference and the like. The wisest teacher that the world ever knew, made motive and merit the sole basis of preferment. We

might with safety follow the example, if we have to do so afar off. The child's whole life in the school room should have some weight in every estimate of his merit. Bestow rewards otherwise, and you violate every principle of justice and repress the noblest instincts of the soul. A child's school life should not be divorced from his standing in the home and society. The test, above all others forced upon him whether he will or no when he enters upon the active duties of life, is a test of character instead of figures or rhetoric. I do not mean that a pupil should be promoted in defiance of his proficiency in the topics pursued, but that a failure to reach a definite per cent by a few points, should be counterbalanced by a high average of conduct and disposition.

Fourth, as to the time promotions should be made. The course of study provides that the work of the grades should be completed in the spring term, and promotions would naturally come at the close of the year. No rule should be arbitrary. It is difficult to state just when a child shall reach a certain height and weight physically, and just about as difficult to determine, in advance, the time when he shall reach a definite mental stature. No pupil should be held back because the moon is in the wrong quarter.

The progressive teacher will not miss the opportunity of arousing a deeper interest in the school by holding promotion exercises to which the patrons are cordially invited. It is an excellent plan to send out written invitations to all residents of the district. The pupils should do the work under the direction of the teacher, and the utmost pains be taken to have it neatly and correctly executed. It will be readily seen that such a plan would afford the very best opportunity for language drill and the practical application of the principles of orthography, penmanship, and grammar.

Uniform and satisfactory work in the country schools can never be fully obtained under the present system of organization. Each school district is a miniature republic, controlling its affairs according to its own whims. Some districts are under the control of the most ignorant and reactionary element, and thus adverse to methods that deviate from the ways of the fathers. But it is not the purpose of this paper to discuss the fallacies of our present school system or to idealize, but rather to deal with a condition.

To summarize, examinations serve a threefold purpose: They test the advancement and thoroughness of pupils. They develop the power of a pupil to express, in good English, the knowledge that he has acquired. They form an intelligent and reliable basis for pupils' promotions.

Examinations should be held monthly and conducted carefully and systematically. Pupils should not be stimulated nor allowed to buy off an examination by good behavior or superior scholarship, but rather educated to consider it an opportunity of developing their powers of acquired knowledge.

Promotions should be made as occasion demands, but planned for the close of the school year. The whole school life of a pupil should be considered in passing upon his claims for promotion. Certificates of promotion should be given pupils as they pass from grade to grade, showing scholarship and deportment.

With these facts in mind, and brains, character, tact, and enthusiasm behind the teacher's desk, much profit may come to the country school. Without these elements harmoniously combined in the person of the teacher, no school can be a success under any plan that can be devised.

DISCUSSION.

Opened by COMMR. FIELD, Lenawee county:

As Commissioner Randall has treated this subject quite exhaustively, it remains for me, in opening the discussion upon his paper, to dwell more fully on certain points, to emphasize his arguments in favor of examinations and promotions in country schools, and possibly to present a few additional reasons why examinations are desirable in country as well as graded schools.

There has been of late a great deal of adverse criticism of the graded system, including examinations, as now in force in our city and other large graded schools. I believe there has been far too good ground for such criticism. Educational processes have been so refined as to have left no room for the development of the individual—the great aim of all true teaching. Grading, classification, examinations, and promotions have been made the end of education, instead of a means to the end. The whole system has degenerated into a machine to turn out graduates. The little five and six year old innocents, with their different dispositions and capacities, are put in at the primary end of the machine and, after twelve years of steady grinding, are turned out at the high school end finely polished graduates, but utterly lacking in vigor of mind or ability to earn a living.

It is this unsatisfactory result of the graded system that has brought about a reaction and raised a hue and cry against it, including, of course, examinations. Some prominent schools, in their rebellion against the machine methods, have gone so far as to have abandoned examinations altogether. But, nevertheless, I believe examinations, where legitimately used, are an excellent thing, both in graded and country schools. They should always be made conducive to the pupil's progress, a guide to both pupil and teacher, a corrective of errors, a means of development. Teachers ought always to bear in mind that examinations are to be made an instrument to develop the pupil—not a bugbear, an instrument of torture to be constantly held before the minds of pupils as a hated and dreaded ordeal. Children are very apt to conceive the idea that to pass examinations, to be promoted and finally to graduate, are the chief end of all study, and that, when they have received their diplomas, their education is finished. It should be the constant care of the teacher to guard against any such false conception of the aim of education.

The proper function of the examination is to test the knowledge of the pupil and the efficiency of the instruction, refresh and strengthen the memory of the child, exercise his powers of expression, and give him skill in the use of his mother tongue. This function is an important one and belongs as much to the country, as to the city school. In fact, our country boys and girls especially need the drill which comes from writing out their thoughts; and we, as commissioners, should endeavor to impress upon the country teacher the true import and place of the examination in imparting this needed discipline.

Whether it is best to hold examinations at the end of every month or at irregular intervals may be a question. In case of a short term of eight or ten weeks I have advised teachers to hold one examination at the middle of the term and one at the close. Monthly examinations should be in the nature of a review; and I think the teacher should carefully correct and call the pupil's attention to errors in definition, spelling, punctuation, and grammar. I do not think these written reviews should be subjected to very close marking. Their object is to review their work and test its thoroughness. Term and final examinations, however, should in my opinion be carefully marked and recorded in the register.

Commissioner Randall has given practical suggestions concerning the details of conducting examinations, so that I need not dwell upon that point. I believe it is a good plan to keep term and final examination papers on file for the inspection of the commissioner and others who may visit the school. The knowledge that papers are to be thus preserved will serve as an incitement to better work on the part of the pupils.

A few words as to final eighth grade examinations. My own experience has led me to conclude that it is not best to allow teachers to mark final examination papers. At the final examinations last February in Lenawee county, as at all such examinations previously, the teachers were permitted to conduct the work and mark their own pupils' papers. Need I say the majority of the candidates passed the ordeal successfully? At the May final, however, I took the matter entirely out of the hands of the teachers. Twelve central points were designated at which the final examinations were conducted by gentlemen who kindly consented to aid me in the work, most of them being principals of our graded schools. All papers were then sent to me for marking, and although the required average was only 75 per cent, with a minimum of 60. I was unable to grant diplomas to more than 28 per cent of the candidates. I do not believe

that our country teachers, however fair they may wish to be in passing upon the qualifications of their pupils, when it comes to the question of graduating them are in a position, generally speaking, to decide as impartially or wisely as the commissioner; and I am thoroughly convinced that that official ought to take the whole matter into his own hands. In doing this he will not only relieve his teachers of a responsibility which would often prove a serious embarrassment to them, but will also possess a valuable means of influencing the work of his teachers and learning wherein they have proven deficient in their work.

For example, the papers sent me at the May final examination showed conclusively that our country teachers have not been doing as thorough work as is necessary to good scholarship. They show that, in the desire to go over the prescribed ground and turn out graduates, they have not been sufficiently thorough, especially in the line of language, spelling, grammar, and clearness of expression. Above all, they have not laid sufficient stress upon developing the power to think. Since this examination I have taken every opportunity to impress upon our country teachers the need of more thorough instruction. In a circular which I issued at the beginning of the school year I made use of the following language on this point: "Only 28 per cent of the pupils who took the final examinations last May met the requirements. Can we not have far better results this year? Insist upon thorough work; review frequently; drill upon spelling, punctuation, writing, grammatical construction, neatness, clearness of statement and accuracy of definition, and your pupils will pass the final examination with credit to themselves and their teacher." I am strongly in hopes that our teachers will profit by the experience of the past and that the results of this year's finals will be more satisfactory than were those of last year.

I believe that such a policy as I have suggested, firmly adhered to by the commissioner, will greatly improve the quality of the work done by our country teachers. It makes a good deal of work for the commissioner, it is true, to look over and mark so many papers, and it might be well to secure the coöperation of the board of examiners in this task. But if we are to have thorough instruction in our country schools, if graduating from country schools is to *mean* something and not degenerate into a farce, we commissioners must insist upon passing final judgment upon the product of the schools under our supervision, and then we must exact a reasonable degree of attainment from the candidates for common school diplomas.

We should aim to turn out from our country schools young men and women who, although they may never attend any higher school, are, nevertheless, possessed of such an education as will make them good citizens, well prepared to take up the duties of every day life; symmetrically developed in mind, body, and soul; inspired with a love for knowledge; possessing habits of observation, correct judgment, and powers of expression; imbued with a taste for good literature, and keenly in touch with the progressive spirit of the age. This much may be done for our country boys and girls in our country schools, and final examinations can be made a powerful instrument towards the attainment of such an ideal. Fellow commissioners, let us use final examinations as a lever for lifting up our country schools to a higher plane.

COMMR. SHELDON of Corunna:

No teacher should conduct an examination for his or her own pupils.

COMMR. ANDRUS:

The difficulty in allowing others to assist in examinations is simply this; it will depend wholly upon the one who does it, for many questions are asked, and the person conducting the examination might, in answering a question, explain so fully as to leave nothing for the pupil to do.

COMMR. CLAPP of Kalamazoo:

This is a very difficult question to decide. If the teacher does not mark the papers with perfect fairness, it is just as true that the commissioner does not. If I, as commissioner, conduct the examination in some central place, the pupils will not do as well as at home. I think an impartial teacher should use the every-day work as a part of the data for promotion, and I have allowed teachers to put their estimate upon papers and then forward to me for my markings.

COMMR. ALLEN:

I had the teachers send me the names of all the pupils who in their opinion would pass the examination, determined by the work in classes as well as in previous examinations. I then divided the county into three districts, notifying the teachers of the county to send their pupils on a certain day to the most convenient of these districts. The examiners individually looked over the papers of those who were exam-

ined, then they met and compared notes, and granted diplomas to those who passed most successfully. We intend to do the same this year.

COMMR. CLAPP:
I visited schools and listened to recitations of eighth grade pupils who expected to pass in examination. I used this in connection with marking, but it is impossible to visit all.

COMMR. WINSTON of St. Johns:
I think that classes should be promoted each year, upon recommendation of teacher. I invite the teachers to come to the examination of pupils and aid in marking papers. I look after this work, and try in my visitation of schools to look after these eighth grade pupils and see if they are fit for promotion. I do not think this ought to be governed by any stiff rules or regulations. I believe teachers are honest, and I believe they can assist in the work. Teachers have been of great use to me in this work.

SUPT. PATTENGILL:
The past year the Department sent word to the commissioners asking for the proper time of holding these grade examinations, and from the dates received we appointed certain dates, one in February and one in May. I have visited one or two counties in which the commissioner seems to think these dates are not satisfactory. I think it is best for this body to make known what dates they think advisable for these examinations, and make some definite statement, in order that it may guide the Department in getting out questions.

COMMR. ANDRUS:
I do as I think best about time of holding examinations.

COMMR. WAGNER:
I think the February examination is all right, but that May is too early for the reason that, as many schools do not close until later, they desire to use more time in preparation for this examination. Then too, if it came later, the commissioners could use the time in May for visiting schools and mark the papers after the schools had closed.

COMMR. FIELD:
I think the last week of May is late enough.

COMMR. HUMPHREY:
I would move that the grade examinations be fixed for the last Friday and Saturday of February and May. Carried.

SUPT. PATTENGILL:
In the councils which I have held thus far with the commissoners. it seems to have been the uniform opinion that the special examinations should extend over at least a part of two days. I would like to have the opinion of this body of commissioners upon the advisability of holding special examinations for at least one and one-half days. I think it better to have all counties hold the examinations on the same dates. I would like the opinion of this assembly.

COMMR. DEMORAY:
All our special examinations except the first, have been held one and one-half days. Of course we mark more closely in marking examinations held for one and one-half days. I think one day commencing at 8:30 too short a time to do the work as it should be done.

COMMR. WAGNER:
I wish to say that, at a recent examination, I consulted with the teachers of Eaton county concerning this point. The majority of them said they would prefer to come and do all the work in one day, instead of being to the expense of staying over night at the county seat.

COMMR. MURPHY:
I would like to discuss this matter. I see no necessity for two days examination. Am sure teachers do not need more than one day. It may be that candidates need more than one day. In this case they have twice during the year for this. It is very difficult to find a good teacher who needs more than one day, but it is boys and girls who are candidates that need more time. I think it would be puttting an unnecessary expense on the county to take more than one day for special examination.

COMMR. DEMORAY:
I have known teachers in our examinations, not only in our own but from surrounding counties, including Ionia, who worked one and one-half days and then failed.

COMMR. FIELD:
I think those who are qualified to teach will get through in one day.

COMMR. WEEKS:
In our county the teachers prefer one and one-half days. Some of our best teachers take the most time with their examinations. The "boys and girls" who fail, write their examinations so as to get out as soon as possible. I have promised teachers I would give them a little more time. Think I can get at their qualifications in better shape if they have longer.

SUPT. ARBURY, of Battle Creek:
What is to hinder candidates who have passed the examination from telling those who hang over into the next day some of the important points that are to come to them? If a day and a half is taken in one place, it should be taken everywhere, and the teachers who are there should not be allowed to finish in one day the work that should take one and one-half days. I think they ought all to do the same thing and do it at the same time.

SUPT. PATTENGILL:
What this body of commissioners should do is to specify a schedule of topics for examinations. In the forenoon of such a day certain topics should be taken, in the afternoon certain others. A uniform schedule of time should be suggested by these commissioners.

COMMR. HERRICK of Wexford:
The main objection to holding one and one-half days is expense. In our county we have reduced the number of specials from four to two, and in this way we have done away with considerable expense. We have found it impossible for teachers to finish in one day and do good work. Since the first special examination, we have given one and one-half days. In order to avoid any unfairness in our work, we have always met early on Friday and made schedule of what work shall be finished before the candidates leave the room. The same for the afternoon session, and all candidates are required to take one full day and as much time as necessary of the second day to finish the work. This is very satisfactory with us.

COMMR. DEMORAY:
Would it not be well for us to meet tomorrow and have committee appointed to report to the commissioners and fix a schedule of time?

COMMR. BROWN of Mecosta:
I believe teachers are honest, and do not think they would inform themselves in regard to examinations. I have not found that they will cheat. Sometimes when one or two have been behind and not able to write all in one day, I have given them more time. As I understand it, our city teachers do not have examinations.

COMMR. PECK of Leelanaw:
For the past three years we have followed the same plan as Wexford and nineteen out of twenty prefer that plan. I would hate to call the nineteen "boys and girls" and the twentieth a "teacher." I am sure many of them are good teachers. I do not wish the settlement of this question left to a committee.

COMMR. O'LEARY of Van Buren:
In Van Buren we have not used more than one day. It would seem to be an injustice to our teachers to hold more than one day, not on account of expense to the county but expense to the teachers themselves. Some of them have to go twenty or thirty miles. It would nearly double the expense if they were obliged to stay over another day. Could not the examinations be shortened? Would not eight questions do as well as ten?

SUPT. PATTENGILL:
I think this matter is left in a delightful state of uncertainty. I wish we might have a committee appointed to decide it.

COMMR. WEEKS:
I move that the chair appoint a committee of three to meet at Supt. Pattengill's office to settle upon schedule for examinations and report at a subsequent meeting. Carried.

President Andrus appointed Commissioner Wagner to represent those in favor of one day, Commissioner Weeks those for one and one-half days, and Commissioner Allen for two days.

COMMR. DEMORAY:

I am not here to talk an arm off of any one, but I would like to know how many commissioners use classification registers. I was compelled to pay $1.25 per copy for Welch's, and consider it outrageous. I made a bargain with one of Mr. Welch's agents for twenty-five copies, on which I was to have $7.50 rebate, which the company now refuses to give. That is the kind of business Mr. Welch's company did with me, and I don't like it.

COMMR. MAYBEE of Jackson:

I understand that Robert Smith has a new classsification register for fifty cents, and I would like to see it brought up and discussed.

SUPT. PATTENGILL:

Any one who wishes to look at Mr. Smith's register can find a copy at our office. We also have for each commissioner a copy of the School Law and State Manual bound together, with his own name printed thereon. We extend a cordial invitation to the commissioners to make the department their headquarters during their stay in Lansing.

COMMR. CLAPP moved that the chairman appoint a committee to examine Mr. Smith's classification register and report opinion at a subsequent meeting. Carried.

Committee—Commissioners Clapp of Kalamazoo, French of Hillsdale, and Teller of Branch.

The Commissioner's Section then adjourned to meet at Superintendent Pattengill's office at 8:30, Wednesday morning, and President Cheever resumed the chair.

COMMR. FRENCH moved that the association at once proceed to the election of officers for the Commissioner's Section. Carried.

Superintendent Weeks moved that the election be by acclamation, which motion prevailed, and the following officers were chosen: president, Ashley Clapp, of Kalamazoo; vice president, P. M. Brown of Mecosta; secretary and treasurer, J. A. O'Leary of Van Buren.

COMMR. ANDRUS:

Two years ago one of our number was elected to edit a commissioner's department in the Moderator. I hope you will feel like keeping up that department and electing some one to edit it.

Mr. Andrus being then mentioned for this place said he absolutely could not do it, but was nevertheless chosen to do so.

COMMR. TELLER:

I move you that the new president announce the executive committee at the meeting tomorrow morning. Carried.

COMMR. ANDRUS:

It was thought necessary to send out a circular in September costing about $3.30. If each member will give ten cents to defray that expense I will make up any deficiency there may be.

Commr. Clapp having suggested that a collection be at once taken up, a hat was placed on the table for that purpose.

COMMR. FRENCH:

I move that the chair appoint a committee to report tomorrow morning upon needed legislation. Carried.

Committee composed of Commissioners French of Hillsdale, Randall of Calhoun, and Peck of Leelanau.

Prof. Strong of Ypsilanti, director of the N. E. A. for Michigan, then reported the receipt of a letter from the president of the N. E. A. indicating that next summer's meeting is fixed for Duluth. Having inquired if it was absolutely fixed a telegram replied "Yes," conditioned on railroad rates." Prof. Strong expressed a desire that the State association should give the matter some attention, and Prof. Hinsdale of Ann Arbor, said: I think it hardly best for us to interfere with it so far as the coming year is concerned, but I would move that a committee of five be appointed to take cognizance of the whole matter and see if any movement should be made on our part looking to the bringing of the association to Detroit one year from next summer. Carried.

Committeee—Prof. Strong, Supt. Pattengill, Supt. Robinson, Commr. Andrus, Prof. Hinsdale.

COMMR. WAGNER:

Other states are always sending congratulatory messages to us, and I move that a committee be appointed by the secretary to anticipate those messages by sending congratulations from us. Carried.

Adjourned to 8, p. m.

ADJOURNED MEETING OF COMMISSIONERS HELD IN DEPARTMENT OFFICE WEDNESDAY FORENOON.

Meeting called to order by the newly elected president, Commr. Clapp.

Commr. Weeks, chairman of the Committee on Schedule of Examination, reported that the committee would recommend that all special examinations be held one and one-half days.

Motion to accept the report made and supported, and after much discussion the question was laid on the table.

Committee on Needed Legislation made the following report:

Resolved, That it is the desire of this Commissioners' Section that the following additions and changes should be incorporated into the existing school laws:

1. That the law exacting institute fees be repealed, that the institutes be conducted at the expense of the State and attendance at the same be made compulsory.
2. That the law relating to compulsory attendance at school be amended so as to provide for a penalty of imprisonment for second offense.
3. That the law should define what are necessary school appliances.
4. That the commissioner should have the power to compel school boards to furnish necessary supplies, to make necessary repairs, and to keep the school property in a sanitary condition.
5. That there should be four regular examinations for all branches, one at least to be held at the county seat.
6. That the Township Unit system should be established.

W. H. FRENCH,
E. J. PECK,
A. G. RANDALL,
Committee.

A discussion of this report led to the adoption of the first, third and sixth resolutions unchanged; the second was amended so as to provide for the enforcement of the present law; the fifth was stricken out; and for the fourth the following was substituted:

That the law should be so changed as to compel school boards to furnish necessary supplies, to make necessary repairs, and to keep the school property in a sanitary condition.

Meeting adjourned.

A. E. RANSOM,
Secretary.

EVENING SESSION 8:00 p. m.

At the hour appointed for the evening exercises Representative Hall was filled to overflowing with an interested audience. A finely rendered solo and chorus by the Lansing high school was loudly applauded.

ADDRESS OF WELCOME.

MAYOR A. O. BEMENT.

Teachers of Michigan, as President Cheever has said, I had the pleasure last year of welcoming your association to Lansing, and am, I assure you, very heartily gratified as to the result of that welcoming in seeing such an attendance here tonight. It shows that you appreciated it. Lansing always has a hearty welcome for anything which adds to her material, or her spiritual, or her mental prosperity, and it does not always say that it must come in any special specific way. While we of course do spend some time on the material things of this life, we do not entirely take all our time in that direction. We are glad to welcome the higher and the better things to Lansing, and are glad to welcome to Lansing the teachers of Michigan as something that is above the mere material. We have to acknowledge, however, that all these things must be built upon a substantial foundation, and we do not propose to ignore these things; but we should be sorry indeed to erect a magnificent foundation and not erect upon it a magnificent building.

I have been looking over your program and noticed one thing which struck me as being in the right direction, and that was unification of work in primary grades of public schools. I believe that is along the line where there should be more work done, and I had in mind that the work which should be done by our public schools should be a work to unify the people of this country in the love of this country. I believe that the school system of this great country is the system which is to make us whatever we are to be. I believe that you are closer to the hearts of the people than any other set of men or women in this country. I do not make any exception even of the clergy. I believe that your handiwork is seen more clearly and more generally than that of any other set of people, and therefore it is with great pleasure on that account that we welcome you to Lansing.

I am glad to know that we have in Michigan a Superintendent of Public Instruction who is an inspiration. He is one of those men who carries the American banner with him wherever he goes, and he is willing to wave it on every occasion. I believe this republic is in the hands of the teachers of the republic. Patriotism should be taught more. It should be brought into our school exercises more than it has in the past, I believe that the inspiration of such a Superintendent of Public Instruction is going to do a good deal along that line. I do sometimes wish that the people of Lansing would throw open their doors and entertain the teachers just as we sometimes do our preachers, and I know I would rather do it; and any time that movement is inaugurated, if it is voted on in our family I shall vote *aye* very loud. I believe it would be a grand thing to have all the teachers of Michigan here. It would do us all good. We give you a hearty welcome to Lansing, feeling that you are well paid in coming to the Capital City.

RESPONSE BY SUPERINTENDENT F. E. CONVERSE OF PONTIAC.

Mr. President, Honorable Mayor, and Fellow Teachers:

It is my privilege to respond, honorable sir, to your eloquent and cordial welcome. In so doing I must try to represent this vast assembly of Michigan's teachers. You will agree that it is a poser, and not wonder if

I should be a little flustered. However, I hope I am not quite so confused as the New York rector's valet. The rector was about to receive a visit from a noted Lord Bishop of England. The good rector of course wished to have everything done just right and instructed his valet very minutely in regard to his duties. Among others the servant was to call the Lord Bishop in the morning and attend to his wants. The instructions were to tap on the door and when his lordship called, "Who is there?" the servant was to reply "The boy, my lord." Over and over again the boy repeated his lesson until he thought it perfectly learned. In the morning he tapped on the bishop's door and sure enough heard, "Who is there?" from the worthy churchman. With that aptness with which we teachers are familiar the valet replied "The lord, my boy."

We thank you, your honor, for this hearty welcome. Though the atmosphere outside be somewhat chilly, the warm heartbeats of your people make us quite unconscious of it. We enjoy these privileges of meeting in your beautiful city and being entertained by your hospitable people. Then, too, there is a small sense of ownership in these halls; I say small, I mean as measured by our tax receipts. So on the whole we feel very much at home here. Teachers, as a class, are not slow to appreciate good things, be it good music, a Downey House dinner, or a good story. Not nearly so slow as the English woman who was being entertained by a prominent American in this country. At dinner the story was told of a very homely man, Mr. A, who prided himself on his homeliness. Indeed he went so far as to vow that he would shoot any man that was homelier. To his utter amazement he one day met a Mr. B whom he thought actually homelier than himself. True to his vow Mr. A drew his pistol and told Mr. B to prepare to die. "What for?" said Mr. B. Explanations followed and Mr. B asked: "Am I really homelier than you?" "You are," replied Mr. A. Mr. B looked in Mr. A's face for a moment and with a heavy sigh said: "Well, if I am homelier than you are, then shoot." The Englishwoman, shocked at the seeming brutality of Americans, asked, "Did he shoot?"

I was saying, your honor, that we are not slow to appreciate, we most heartily appreciate your hospitality; and on behalf of the teachers of Michigan here assembled, I thank you again for these words of cordial welcome.

Music—A duet, "I Feel Thy Angel Spirit," by Miss Henrietta Warren and George R. Curtis.

PRESIDENT'S ADDRESS.

PROF. W. H. CHEEVER OF MILWAUKEE NORMAL.

The old philosophers talked to men of what they were; the teacher of today talks to his pupils of what they are to be in the vast cycles to come. Through all his teachings, as a thread of gold through a web of cloth, runs this idea: a noble manhood based upon true motives will secure a grand reward. I think so few of us who teach, properly estimate the bearing of this truth. The world has not advanced far enough from its childhood to analyze the intended compensation. Let us discuss the great incentive which the teacher has to work for this reward.

The great Augustine says, "It is the cause which makes the martyr." One of the most essential and mightiest of all facts growing out of the teaching of our educational literature, one is not slow to discover. It is a

fact employed by educational writers and ought to be emphasized till it shines with a splendor almost dazzling to one's faculties, that the central fact of our entire educational system is personal, not a theory or a code. The teacher, then, is the fountal idea from which the pupil's ideas must emanate. Faith, which plays so large a part in the education of a child, has its source in a person. This is why we name faith to be a pupil's enthusiasm with an earnest teacher as its object.

As we travel this path, the mind soon accepts the conviction that man is so constituted that he finds the highest incentives outside of himself. Sir Humphrey Davy demonstrated this in his life. He found a motive for all kinds of experiments with his own life, that he might gather the results into a science for the good of mankind. Like all remarkable souls, he was stirred and moved by things outside of himself. He undertook to prove that hydro-carbonate acts as a sedative. He tried various and dangerous experiments upon himself. Few would take such risks as he took. He introduced four quarts of the gas into a silk bag. After exhausting his lungs and closing his nose, he made three breathings of this gas. The first produced a feeling of numbness; the second took away the power of vision and enfeebled the other senses; the third sent him away into a swoon and left him only strength enough to throw the tube from his lips. After a short interval he had strength enough to whisper, "I do not think I shall die."

The teacher should understand his pupils' compound nature, and should know that faith is power. Faith in his teacher draws his nature with a deeper and stronger power than science can draw the soul of a Davy, or the electric light the soul of an Edison. Why do I make the future of the child so dependent upon the personal love and devotion to the teacher? Simply because, as he is constituted, in no other way can the pupil be turned toward higher interests. The bulk and mass of children are too blind to find their way by the light of precepts, too firmly wedded to lower interests to be moved by theories of virtue, too solidly imbedded in customs and habits to be extricated by any play of reason.

It is the subtlest thought in the profoundest drama, that Hamlet is searching for a human love to upstay and inspire him. It is the key to all his wild, testing talk with Ophelia. The love he found, but there was no strength in it. It could not draw together his scattered and faltering energies and set them to some definite end, and so his life sweeps on to its tragic close.

A large part of the number of those who leave school before graduation might be saved, if held to their work by the personal love and magnetism of some teacher. There is in many of these cases simply lack of motive power. Pupils need something of the nature of a passion to dislodge them from their indifference, some deep swelling current of feeling to sweep them away from evil toward goodness. I would rather trust the education of my child to a person with magnetic power, drawing him into a masterful love, a love something like that which the old Greeks recognized as heroic, even though such a teacher be ignorant of methods, than to intrust him to a teacher who is master of all methods, but lacks the power to awaken the passion for a truer, higher life. I would rather my child would go out from school with right tendencies in thought and feeling and action than with a standing of ninety per cent. To do this takes us out of the realm of geography and arithmetic merely as information subjects, and raises us into higher fields of action, into the throbbing

activity of soul. The child is the all important idea, not how many pages of a text book.

If we apply the principle that pupils find their highest motive outside of self, and that all great natures become such by looking outside of self, we can easily understand what I meant by the teaching of a person, and that faith in him would bring to the soul a wealth of rewards undreamed of by any school of philosophy. "You can never touch the heart of another with emotion," says Goethe, "unless the emotion is genuine from your own heart." Or, as Horace puts it, "If you wish me to weep, you must first weep yourself." It is important that every future citizen should be taught to read, more important that he learn to observe and think, but most important of all is it that he learn to love, admire, and revere those things which are worthy, and to hate those which are unworthy. But how can the average boy learn so to love, admire, and revere; so to hate except through the voice, tones, and whole life of his teacher?

Some teachers suppose that a love for their work and a love for the children are one and the same thing. We see teachers every day struggling with all their might to accomplish certain results. So that the end is gained, the means are a matter of small indifference. So long as the work is of a nature that requires only the use of mechanical powers, this does not make much difference. But children have a natural and proper dislike to becoming a mere machine for carrying on the schemes of others. If a teacher takes the charge of a school for the purpose of showing to himself or to others, how certain things may be done, the children are quick to find it out and resent it. Every individual child is to himself the center of all human interests, and if you are to have any abiding influence upon him, he must first feel that you have a regard for himself, in his own proper person, independent of any plan of your own.

One may love to see her children all present punctually, to see them making a good appearance, and by their orderly behavior and manners helping forward the school generally; one may love the work of teaching as giving honorable and useful occupation, but something more than all this is wanting. You must love the children, you must love each particular child, you must become interested in each child, not for what it is to you or to the class or to the school, but what it is in itself, to be loved and admired for those immortal qualities and capabilities which belong to it as a human being. No matter how depraved or degraded or forbidding in appearance that child may be, it has qualities which, if brought out, may make it more glorious than an angel. Little real influence is ever produced upon any human being without creating between you and him a bond of sympathy. If we would work strongly and efficiently to keep our children in school, we must really love them, not in the abstract, but concretely and individually. We must love the boys simply and truly because they are objects of true interest and affection. You can discover at a glance what teachers thus love their children. It speaks from the lips, beams from the eye, thrills in every tone of the voice, and is eloquent in the very touch of the hand and movement of the person.

Some persons are naturally more fond of children than others, but those not naturally thus inclined may cultivate the disposition. They must do so if they mean to be teachers. No one is fitted to be a teacher who has not learned to sympathize with the real wants and feelings of children. Pretense here is all wasted. Shams may do with grown people sometimes, never with children. They have an instinctive perception of

what is genuine and what is false in professed love for them. The only way to win the love of a child is to love him, not to make professions of love. Nowhere is this love more needed than in teaching the children of a large city, yet the opportunities for knowing the children out of school is in inverse proportion to the need of knowing them. The parent knows little of the day or Sunday school teacher; the teacher does not know the parent; and so the child's training is carried on in three sections.

Blessed indeed is the child whose first years are spent in the country! He knows where the birds' nests are in the trees, the hens' nests in the barn, where the first ripe apples grow, where every ravine and slope is, where the rabbits run and the earliest wild flowers grow.

Someone has said, "Empty the jails by filling the schools;" but this does not go far enough. Filling the schools will not avail unless, at the same time, the child is surrounded with such influences from three to fourteen years of age, as will give direction to his whole after life.

Give us in the primary schools the best teachers that money can procure —teachers who will know when to help the boy, when patiently to wait; teachers who will teach by furnishing environment. We have done but a small part of our work as teachers, if we simply teach well, arithmetic, reading, etc.

I know a teacher who recently gave to children in second grade, copies of famous pictures with an account of the artist's life. An observer told her how the children at their play, on hearing a distant bell, acted in their childish way the Angelus. Who shall say what inspiration for future goodness and happiness was breathed into these young souls by glimpses of the beautiful given by this loving teacher. Every boy born in Lansing today is heir to all the beauty there is in art, from Phidias and Praxiteles to St. Gaudens; from Raphael to Corot. In the recent congress of religions at Chicago, an Armenian spoke as follows: "You are indebted to the Old World for your art, poems, literature, and religion. We of the Old World made history for you. I come to claim my share of the profits." The wealth in science and art which marks the civilization of today is the result of what has gone before. How can we repay it? As taxpayers, by loyally supporting our common schools, high schools, and universities. I view with apprehension the complaints of taxpayers as to the amount of their school tax. The schools are not objects of charity. He who pays the largest school tax is but paying a small part of the debt he owes to that which has made his wealth possible.

I desire to lay even a higher responsibility upon those who have wealth. In the sight of God, a boy born in the poorest part of London has the same right to the assets as the rich boy has. Many poor boys are obliged to leave school before finishing the grammar grades. It is a part of his birthright to finish his high school course. Let some one out of his surplus help him out of school evenings, and lighten his sphere a little. But some one says: "You will educate him out of his sphere." His sphere! What is his sphere? Who made it? All is a part of God's domain and we all are his children Will he do his work less faithfully because a little light and a little pleasure is thrown across his path? Far better to feed him than turn him out to browse on the public common of ignorance and vice.

Everything great and good has its roots in the past and is an evolution rather than a creation. Said a wealthy man to me recently, "I am a self made man, with little or no help from your public schools." A self made

man, when so many centuries of progress have met and helped him! A self made man, and derived little help from our schools! The world justly lauds the generosity of a Rockafeller to Chicago University, but the patient work of the teachers of science in Columbia College in studying how to refine the crude petroleum, has given to the world a value in kerosene oil greater than all the colleges and universities in America. A self made man and not a debtor! England's greatest coal fields were discovered by Sir William Smith, a scientist, who said coal must lie under the magnesia limestone. A self made man and not under obligations to students of science! At Philadelphia in 1876 there was a small building devoted to electrical inventions. At Chicago, seventeen years later, a large building covering acres is filled with inventions of the devotees of science, all assisting the self made man and making very small that part of his own creation deserving his self praise.

We are living in an age when material and intellectual interests are prominent in the minds of all men. He has read history to little purpose who has failed to see that those periods when the material and intellectual activities dominated to the exclusion of the moral, ethical, and religious interests, are the saddest in history. For the symmetrical development of mankind, the cultivation of the former must be made secondary to the cultivation of the latter.

Last fall, from substantially all the leading institutions of liberal learning in all sections of the country came reports like this: "The freshmen class is the largest in the history of the institution." It is a notable fact that a large portion of the foremost colleges and universities are yearly growing in student attendance at a rate much in excess of the rate at which the population of the country increases. We hear a cry of alarm lest this flocking of young men to academic halls result in an excess of aspirants for professional life and a corresponding dearth of business men. Recently the cry has taken on an additional note in view of the rise of liberal education for women. It is a false alarm. For one proof that no one needs to worry, observe how large a proportion of college graduates annually go into business rather than professional life. It did not use to be so.

Recently, say within the past twenty-five years, a different theory of liberal education has come to the front. It is not a new theory; it has been more or less proclaimed for ages, but of late it has gained, as never before, a firm foothold. It is that the higher learning is good in itself, if good at all in any given case; that its object is not to make preachers, doctors, lawyers, editors, or chemists, but to make men—and women. So we now see each autumn thousands of young men, and hundreds—would there were thousands—of young women entering college without having formed any fixed purpose to enter professional life, but fully determined to make their life, whatever may be its special channel, as broad, deep, high, strong, and luminous as possible. And every summer at commencement season, we see multitudes of studious youth graduating with honor and becoming merchants, bankers, manufacturers, inventors, railway managers, horticulturists, breeders of blooded stock, organizers of industrial systems, insurance men, dealers in real estate; in short, entering the multitudinous ranks of busy and productive activities. Or, if the gentler sex, we see them taking their places in society, and carrying there a gracious and cultivated womanhood, which ennobles while it charms.

A short time ago there passed under my eye an article headed "A

Worker's Dream." When that article was put aside new thoughts ha been awakened in my mind. I do not quote it because of any imputatio upon our work as teachers, but because it placed our chief duty before m in a new light. It was of a teacher who had worked unto weariness. H was popular, and the verdict on all sides was that he had succeeded. At las overcome by a sense of fatigue, he became semi-conscious. Suddenly stranger entered the room without any preliminary tap. Said the dreame "I saw in his face benignity, intelligence, and weight of character. Bu though well attired, he carried suspended from his person measures, an chemical agents, and implements which gave him a very strange appea ance. The stranger came toward me and extending his hand said, 'Ho is your zeal?' I supposed when he began his question, his query was t be after my health, but was pleased to hear his final word. I was quit well pleased with my zeal and doubted not the stranger would smile whe he knew its proportions. Instantly I conceived it as a physical quan tity, and, putting my hand into my bosom, brought it forth and presente it to him for inspection. He took it, placed it in his scales, and weighe it carefully. I heard him say, 'one hundred pounds." I scarcely coul repress an audible note of satisfaction. But I caught the earnest look a he noted down the weight, and I saw at once that he had drawn no fina conclusion, but was bent on pushing his investigation. He broke th mass into atoms, placed them in his crucible, and put the crucible into th fire. When the mass was thoroughly fused he took it out and set it dow to cool. It congealed in cooling, and when turned out upon the heart exhibited a series of strata, which all, at the touch of a hammer, fell apa and were severally tested and weighed. The stranger made minute note as the process went on. When he had finished, he presented the notes t me and gave me a look of mingled sorrow and compassion as, without word, he left the room. I opened the notes and read as follows:

ANALYSIS OF THE ZEAL OF TEACHER.

His zeal 100 lbs.	
Personal ambition	13 parts
Love of praise	19 "
Pride of talent and position	18 "
Love of authority	12 "
Desire to have pupils pass a good examination	10 "
Desire to have room appear well	11 "
Desire for the formation of pupil's character	17 "

Only seventeen pounds of pure zeal. I had become troubled at th manner of the stranger, especially at his parting look. But when I looke at the figures, my heart sank within me. At first I was inclined to di pute the figures, but it was of no avail. Fixing my eye upon it, at once became a mirror, and I saw my heart reflected in it. I saw it, felt it, co fessed it."

Soon after reading this, I received a letter from a young friend, askin assistance to secure a more congenial position, and giving as one of he reasons, that the pupils in her room are poor, ignorant foreigners. She rich in all those rare qualities in which they are so poor, and I could n refrain from urging her to give them for one year, at least, that brightne of a higher light without which their lives must be so dark.

Phidias gained reputation among the early Greeks because he, best of a men, could carve the human form from the cold marble. What is needs

is a Phidias in every school room to mould a perfect character in each child, no matter what his surroundings or nationality.

When the great artist, Leonardo de Vinci, had finished his masterpiece, "The last supper," he invited a friend to examine and criticise it. The friend was overwhelmed and exclaimed, "Exquisite! That wine cup seems to stand out from the table as solid, glittering silver." Instantly seizing a brush, the artist blotted out the cup, saying, "I meant that the figure of Christ should be the first and mainly attract the observer's eye. Whatever diverts attention from him, must be expunged."

In the painting of the life of each pupil, may we so influence, so inspire, so guide each one, that not worldly gain, learning, or position may stand out as the prominent thing, but character.

"Let knowledge grow from more to more,
But more of reverence in us dwell,
That mind and soul according well,
May make one music as before,
But vaster."

At the conclusion of this address, President Cheever announced a postponement of the Governor's reception to Wednesday evening, and extended a general invitation to the audience to repair to the residence of Rev. and Mrs. Temple on Capitol avenue, where a reception was held in honor of Dr. Boone, also a meeting of the Normal alumni. The meeting then adjourned.

WEDNESDAY, 9:00 a. m.

PRAYER—Dr. L. R. Fiske, of Albion.

MUSIC—Chorus by boys of Industrial School. Encore responded to by Master Willie Huddleson with "Home Sweet Home."

After the necessary announcements Pres. Cheever appointed the following committees:

RESOLUTIONS –Supt. Richards, Pres. Gorton, Supt. Richardson, Supt. Wilson, Commissioner Abbie Roe.

NOMINATIONS—Pres. Gorton, Deputy State Supt. Hammond, Supt. Honey, Supt. Converse, Miss Ida Lamb.

Secretary Hoyt announced that telegrams of greeting had been sent to teachers' associations in Wisconsin, Kansas, Iowa, Illinois, and Indiana.

"GENERAL CULTURE AS AN ELEMENT IN PROFESSIONAL TRAINING."

DR. A. G. BOONE, PRINCIPAL OF STATE NORMAL SCHOOL.

My subject is scholarship as a factor in the training of teachers. I do not mean simply or necessarily more academic education, larger knowledge or versatility, though this is well enough in its way. My theme is the needed influence of a larger individual life upon the teaching, the contribution of learning to the daily work of the class room, an enrichment of skill and influence and conduct through a more abundant culture.

There are three factors involved in ideal teaching:

1. The habit of right thinking on the part of the teacher. Here, as in its original sense, I use right to mean straight, direct, regulated thinking

which has purpose and seeks an end and employs means; that which is not so much influenced by incident and collateral considerations, as able to influence and control whatever other purposes or motives. Right thinking is centripetal.

2. Knowledge of the processes involved in growth is of fundamental importance. By this is not meant simply an acquaintance with mind or with study, although both of these are implied; but rather an acquaintance with mental development, the unfolding of individual life, the maturing of one's personality, the steps in this process and the conditions under which it goes on. Knowledge of the process involved in growth means an acquaintance with both the individual and the race; an insight into the spiritual forces which make for civilization a sympathetic interest in the individual, as representing in the small the larger personality of the race; an intelligent appreciation of the race as comprising the more sacred individual. Knowledge of the processes involved in growth implies a knowledge of the individual and the mass; their inter-relations, their mutual reinforcements and limitations. Of course, in the school room and to the average teacher, the essential fact, the one of most immediate significance, is the individual; not the nation, certainly, or the race or the community even or any particular class in the community or the grade, or class, as a whole in the school, but the single individual.

How do the processes go on here? How they go on here, it must be apparent, depends primarily upon or is explained by how they go on there; *i. e.*, in the race or in the mass. But the average teacher's concern is with the particular boy and the particular girl. That this knowledge of the particular boy and particular girl is understood, both as to fullness and validity, by one's knowledge of the typical boy and the typical girl, goes without question.

3. The final factor involved in what I have called here ideal teaching, is skill in manipulating those processes mentioned in item two. Skill is not knowledge so much as doing. It may or may not involve thinking. The more intelligence does enter into any art, the higher the grade of the art. But a large per cent of all the world's doings among men, and the most intelligent men, concerning high affairs in state and church and society not less than the school, partakes of the mechanical in a painfully large degree. The former's skill is a sort of blind art. Things are done as they have been done, with little thought of why or why not. But so is the teacher's skill and the preaching of the pulpit and the carpentering of the shop and the keeping of books and the running of railroads and the making of literature. Skill in manipulating the processes involved in growth may or may not be conscious. It usually is not or is but partially so; and to the degree that it is not, is unintelligent.

These three factors, the habit of right thinking on the part of the teacher, a knowledge of the processes involved in growth, and skill in manipulating these processes are all inclusive and fundamental. To omit either is to depreciate the profession and cripple the art. He who has knowledge of the processes, may bungle in his instruction and have a limited scope in thinking. One may have skill in teaching, and lack both the other requirements. One may have the habit of right thinking and not have considered the growth of mind, the steps in learning, and the nature of knowledge. He who has skill, but lacks knowledge and culture, may seem to teach well, while doing his children an infinite harm. He who knows the mental processes involved in education, may think so

crookedly and be generally so wrong-headed, as neither in theory nor practice to be able to render any valuable service to his pupils.

The knowledge of growth referred to here includes the notion of 1st, Individual Growth; 2d, Social and Institutional Conditions; and 3d, Racial Growth or the Evolution of Civilization. By these headings it is not meant to discriminate three distinct lines or orders of growth, so much as three phases of growth of the same being.

To understand growth in this triple sense, that is, in the individual, in the institution, and in the race, there are involved (*a*) a study of mind; (*b*) the history of education; (*c*) educational doctrine; (*d*) educational agencies; (*f*) method with its correlative practice. Growth in the individual is, broadly speaking, both as to lines and conditions, paralleled by growth in the race. So the psychology of the individual may be illumined and verified by an insight into the nature and motives and instincts of men in larger bodies. It is not enough to have read any text book on psychology, however complete or trustworthy. Familiar acquaintance with the individual mind comes through the study of the individual mind. The valid acquaintance with the universal mind comes not only with the study of the individual or numbers of individuals, but through the study of groups, masses, and organizations; national and racial types; insights into mind as it has been manifested in institutions and organizations and societies and clubs and churches, the state schools, the family, individual bodies, etc. That is, any view of mind which is not enlarged and enriched by the acquaintance with minds, and associated minds with established and organic relations, must be partial and more or less unsatisfactory.

The way in which child mind acts is more than paralleled by the way in which primitive mind acts. How the boy thinks is typified in the thinking of King Alfred and Charlemagne and Cæsar. "What," asks Emerson, "is the foundation of that interest all men feel in Greek history, letters, art, and poetry, for five centuries after the Homeric age? What but this, that every man passes personally through a Grecian period?" Elsewhere, describing Xenophon and the experiences of his military life, he says, "Throughout his army exists a boundless liberty of speech. They quarrel for plunder, they wrangle with the generals on each new order, and Xenophon is as sharp-tongued as any and sharper-tongued than most, and so gives as good as he gets. Who does not see that this is a gang of great boys, with such a code of honor and such lax discipline as great boys have?" Indeed, the Greeks generally "combined the energy of manhood with the engaging unconsciousness of childhood."

So, on the other hand, acquaintance with history in the larger sense is meager and inaccurate, and offers but the veneering of culture except it be particularized and concreted in a familiar comprehension of the several individuals who make history. The one enriches, the other enlarges the common notion. History of education gives the ground for one sort of comparative study; that is, the opportunity to observe educational systems and practice and agencies, along the chronological line. As all best study is comparative, whether in science or philosophy, in theology or government, so in education, he who has not had his view of pedagogical thought verified by the perspective of Egyptian and Chinese and Persian and Hebrew and Greek and Roman and all typical past pedagogical thought, sees at best but narrowly and superficially.

A study of history of education gives a balance and caution to educa-

tional doctrine. This is the factor of conservation. It saves from fads and whim and caprice and tangential enthusiasm for what is momentarily thought to be new. A familiar acquaintance with ancient educational ideals furnishes a fertile soil in which to sow the seeds of the new education.

Theoretically, whatever is best in the modern doctrine concerning schools or culture or learning or systems or the lines of training may be found in general, at least often, in a well developed philosophy in the writings of Solomon, in the writings of Plato and Aristotle, Quintilian and Bacon, St. Thomas and Comenius, St. Paul and Christ. To have put ourselves in the place of those who have thought before us, easily tempers egotism and avoids or corrects the extremes of self-assertiveness, gives faith in the man and the race, and exhibits the lines along which advance has already been made and must be made.

But the most detailed and elaborate study of psychology, and the conditions and lines of progress in the race, would be fruitless and unmeaning, except they be knit together by a body of inferences taking the form of educational doctrine: that is, teaching is intelligent to the degree that it is inspired by some rationally held *theory* of the *purpose* of *education*. Of all professional subjects, teachers most need the acquaintance with educational doctrine. Method is less important; devices are insignificant; acquaintance with peoples, barren of results; the most patient study of mind valueless, except these be carried on in the light of some more or less well established doctrine, or at least hypothesis, concerning the ends and conditions and means of education. Educational theory is the atmosphere in which all study of mind, and reading of history, and social inquiry, and philosophic thinking must be done. Give teachers of our State right notions as to the essential nature of education and right education, the purposes to be achieved in the individual and the community, a mastery in their own lives of the forces that have operated to elevate the race, a sound understanding of the laws of mental improvement,—and they may or may not have read psychology or logic, or books on method, or history of education, or school management and organization and courses of study. That is, educational doctrine is needed as a guiding principle; the laws of mind and of learning and of teaching would be brought into line, if only there be clearness of vision with reference to what has been called here educational doctrine. Never more than today has there been needed by the teachers of our country a thorough comprehension of the grounds for a a state-controlled, state-supported, state-established system of secular education.

What are the agencies which society provides for the furnishing of schooling? What is the relative service of each? What is the place of the family, of the church, of industrial and social organizations, of the State? In the race's history, that education is the function of each of these may be found to have at times prevailed in some place, and often with determined following. In comparatively recent years only, and first in this country, was there developed in a practical way the thought that schooling,—free, public, secular, universal education, was the function of the State. In no large sense in Europe, outside of France, are there yet free public schools erected into systems such as we have in the United States. Germany has such schools in occasional cities and provinces, but they are not at all common. In France during the last decade only has any serious attempt been made to effect a free and secular education. The

Board Schools in England, the only attempt at such training of the young as is universal in this country, have been free, even in theory as they are not yet in practice, scarcely two years. Here is a problem in pedagogy for our teachers in the United States, which has no superior in educational discussion in any country. Whose are these schools? To what end do they exist? For what purpose are lessons given? Is it to fit the boy for the church or the bench or the shop or the store or the farm or the teacher's desk? Is it to make him pious or informed or skillful? Is it to give him a trade or a profession or a competence, or is it to make him a man? Of all these agencies I am not here to say which has the prior claim, or that either should absorb the others. My only plea is for such abundant training and large learning and richness of culture, such familiar sympathy with the progress of man and the conditions of his uplifting, as that these and other questions may be fairly and intelligently grappled. There is no single danger which today more menaces the public school than that teachers will prove themselves unable, through lack of insight or fineness of discrimination and vigorous thinking, virility of life and mind and mastery of the problems of civilization, to take hold of these and like vital questions and compete with the rich learning, the large hearted zeal, the religious enthusiasm, or the utilitarian demands of aggressive individuals and organizations. "The cause of truth," said an old friend of my boyhood, "has often suffered more from its friends than from its enemies." Nor does the evil follow from wrong intention. The best designs, if stupid or backed by mediocre abilities or a too limited culture or careless judgments or loose thinking, may do only the more harm. Here is the danger.

Fifteen thousand scholarly teachers in our State, picked men and women of ability and training, large minded and generous hearted, possessed of that broad culture that comes only through much reading and travel and long study, in five years would shift the very motive of the State to a higher plane and make all life seem richer.

What is wanted primarily, shall I say, in the teacher, is that he be a man or that she be a woman, not a method mongerer. The place and function of the public school and its right to exist as the State's agent for providing a secular education, are not in any sense guaranteed by the devotion of teachers; every interest demands that it be an intelligent devotion, supported by high scholarship and reinforced by whatever lessons history and philosophy and science have to offer. It has been said that "the conflicts of the world do not take place altogether on the tented field;" nor, it might be added, at the ballot box nor in congress. If secular education, a rich, free, liberally extended and universal education, is to be saved to our people, enlarged and fortified, it must be through the people; and the campaign must be managed by the teachers, with all wariness and dignity and sound argument, efficient work in the schools, and faith in the people. The conflict is one of mind; the campaign, an education. Cool heads and masterly judgment are needed. Moreover, in a knowledge of the growth referred to here, there is also involved an acquaintance with what may be called "method," as distinct from methods or devices. By method is meant the law of the mind's movement. This is a narrower field than that of psychology and even more fruitful of suggestion to the teacher.

Psychology in the ordinary sense is static; method is dynamic. Through the study of psychology teachers learn of the powers and experiences and conditions of activity in mind; through method, of the way in which these

activities go on or, rather, the law of their going on. For an insight into method, teachers need logic, or the law of inference or suggestion, or the sequence of experiences. To the teacher, the unit of child experience is the judgment. The information theory of the older schools made the unit to be the idea. How ideas follow one another, are combined and associated and breed other ideas, is the question for a Gradgrind. How judgments combine and are mutually influenced and breed other judgments, is the law of the new education. To understand growth means to understand the reason of forming independent conclusions, of gathering up experience by the child and making his inferences. The unit is the judgment. This may be illustrated in the study of geography, for example. If the idea be taken as the initial and typical experience, and we seek to make the child informed, then our purpose shall be to give him the largest number of experiences, of ideas. This was the old way. Am I wrong in supposing that it is even now the more common way? On the other hand, if geography be taught as a means of arousing questions and suggesting problems and tracing movements and working out physical forces and gathering from data new inferences, the training is of a vastly different kind. The modern thought of geography would make its study relatively less like memorizing lists of names, and more a process of reasoning such as geometry offers, or physics: that is, the study of method which is both a cause and sequence of the knowledge of growth under consideration, is a study that involves a knowledge not only of mind considered statically, or of the invividual mind, but of the dynamics of mind, and mind in the universal sense as it appears in the race. The method of the school is a statement of those universal laws of mind which are true fundamentally of either sex, of all races, for every age, and in whatever subject or grade of school. Having to do with the forming of judgments, the growth and conserving and enriching of judgments, it will be readily seen that all method is grounded in logic. To comprehend the mind's way of learning is to have an acquaintance with the primary laws of thought, the steps in maturing, and the conditions of valid experience. This is well within the field of logic.

But the fairly profitable pursuit of either of these lines presupposes a maturity and mental integrity and large culture and abounding information such as no novice possesses. A study of psychology and the history of education and educational theory and the principles of the school, requires for their intelligent mastery a precedent study of those subjects out of which the science of mind grows, and those phases of history of which the record of education is the flower, and those forms of philosophy of which educational doctrine is the culmination; and these lie beyond the understanding of youth. The sooner we concede that the professional study of pedagogy is unavailable for the sixteen-year old or one with elementary training only, and insist upon professional views being taken through the glasses of learning and large refinement and a tempered life, the better for the schools. But it is asked, may not one do fair work as a teacher who has but a moderate scholarship and ordinary training? Certainly; much instruction is tolerable that rests upon no liberal culture: but I am reminded that the teacher is like the egg; it is not enough that he be tolerably good. If ideals are sought, it must not be along the lines of mediocrity.

The most radical emphasis to be put upon professional fitness, therefore, yet concedes the necessary precedence of academic fitness. The teacher's

view, whatever it may be, is special and hence narrow. Its significance and helpfulness are to be measured by the way in which it is rooted in a liberal preparatory culture. It has already been suggested that, in the train of a general education, the resulting habits and discipline are such in themselves considered as to carry a distinctive advantage to the teacher. But more than this, they furnish the only fruitful conditions for maturing the views peculiar to the teacher's calling. The one is the foundation essential to the other as a superstructure.

In history and the humanities generally, is found the class to which pedagogy is referred and which furnishes the principles both of the sience of education and the art of teaching. In the physical sciences are found the principal means for all elementary training and a convenient instrument for higher culture. Not less, also, language and mathematics, once understood, afford an exercise ground in teaching whatever grade, fitted to the mind's needs and easily available.

But here as often elsewhere, a little learning gives meager promise. The varied uses of the most common tool are known to that workman only who has mastered it by long and daily handling. The infinite suggestiveness of science comes to no teacher because he is a teacher, nor to the novice in science. The idea of nature's resourcefulness is his who has bought it by patient, willing sacrifices, courting her secret in all moods and tenting with her in solitude. How to employ things as a stimulus to thinking and make nature an ally of mind, is easy enough if acquaintance with the conditions of learning is enriched as it may be by an intimate knowledge of the same nature as an instrument of learning (growth). This is only another way of saying that he will best use an individual lesson in history, other qualifications being equal, who is best able to enrich it by a large contributing knowledge of related facts and a sympathetic interest in the forces that make for civilization. Geography is vitalized and bristles with suggestion under the instruction of a thoughtful, sympathetic teacher who has traveled far and read much and keeps in close touch with the great movements for exploration and conquest.

If our perceptions are significant according to the content which our conceptions contribute to our seeing, then the larger the culture brought to bear in any act of teaching, not in fact, but in thought, the more accurate, the richer the lesson.

All that is involved in the preceding paragraph under the knowledge of growth, and acquaintance with psychology and educational history and doctrine and, especially, school systems and agencies, may and ought to be possessed by every intelligent citizen primarily because he is interested in youth, or should be, and also because he is a citizen. Much of what was once regarded in law as the exclusive privilege of the jurist and attorney, has now worked down into the common life, and in principle and fact is acted upon by thousands of people in their business relations with their fellows, and those who have limited schooling and limited reading who have never read a page in Blackstone or Story. Not a little of the best hygienic and sanitary thought of the last century, then known only to medical experts and surgeons, is now not only known, but followed, in theory and practice by hundreds of families whose lives are thereby safer, whose comforts are multiplied, whose leisure is vastly increased and dignified, to say nothing of the added length of life. So, also, the nice exclusive discriminations of the clergyman, and the interpretations of the moral law, and the standards and conditions of right living which were limited to the

church and to the current theology, and were taken upon authority and without question, are now made and held by the average individual for himself. More and more the tendency grows to concede to the pulpit only an individual's right to think, and to the pew an equal individual's right. The exclusive theology and ecclesiastical privileges of the last century have worked down into and become a part of the common life of today. Just as the principle has operated in law and medicine and theology to permeate the soil of the common mind with what was once the exclusive possession of a privileged few, so of education: to question this learning and science of the mind, and civilization and legislation and school systems, and growth and its conditions, is daily being recognized as of paramount interest to every father and mother; to every law-maker or law interpreter; to every pathologist and physician, and particularly to him who would preach the conditions of right living and worthy motives to his congregation. But the teacher may fairly be held to know the problems of his profession, in a more masterful way, (the philosophic grounds of his service, its civic and social and race relations) than these who have been named or any others. This can only mean the study of purely professional questions through a more abundant contributing discipline.

Skill in the manipulation of these processes of growth comes by practice only. No one can predicate successful teaching upon any amount of preparatory study. The having taken a four years' course in pedagogy gives no certainty of efficient work before a class, neither does a period of college and university training; but both offer strong assurance. One may have mastered the collegiate courses offered in mathematics or science, and have had years of philosophy and literature and history, and have made himself familiar with current economics and politics, and read Greek and French and German and Spanish and Italian, and still be a stupid before a class of children. But so may one have mastered the science of education and methodology, and have studied the principles of school management and school legislation and the development of school systems, and be overflowing with the ways of the Greeks and Romans and Confucius and the Jews and Zoroaster, in the way of education, and be equally impotent before children. Success in teaching can be predicated upon no amount or kind of preparatory study. This only means that, if the teacher would claim rightly any real professional knowledge, the demand is growing upon him more and more to ground his acquaintance with and knowledge of these so called professional matters upon a more discriminating insight, and more fertile judgment, and larger acquaintance with men and institutions and social forces, and the changing implications of science and philosophy. This faculty of thinking, and right thinking, may be found and often has been found, in men and women who have made little or no formal study of the processes of growth either in biology or psychology or sociology.

The schoolmasters of the ancient Hebrews were school masters; so were Socrates and Aristotle and Plato; so was St. Paul and the Man, Christ. Excellent teachers may be found all down through the ages, no one of whom could have defined to the satisfaction of a modern any mental function or process, or technically described any experience; and yet they taught well. There will occur to you in your own observation teachers who are graduates of no Normal school, who are not informed as to the laws of mind and learning, who find examinations for permit to teach frightful bug-bears, and yet who succeed. Still, not their ignorance, but

their wisdom, is the ground of their success; not what they do not know, but what they do, is the measure of their efficiency. It has been said, "A man is worth to himself what he can enjoy, but to others what he can do." If, however, what he can do is daily enriched by the larger possession of what he enjoys, the service is more than doubled. To have put into the commonest service of the hour, the spirit, the enthusiasm, and interest and confidence and hopefulness which form a large part of the enjoyment of living, gives to teaching an impelling force, an aggressivenes, the quality of positiveness and directness, and so fruitfulness such as it has in no other way. This is the function of larger learning in its reaction upon daily teaching. It gives intensity to one's influence, and directness to one's example, and accuracy and definiteness to one's questions; it lends precision and clearness; it makes one fair and considerate to the degree that one's own good intentions for himself are infused into his relations with his pupils. Learning is conservative, but it is also kind and large-hearted and thoughtful. Learning in the teacher's heart acts upon the teacher's mind, and kindly impulse in the one gives sympathetic force in the other. This skill, therefore, is rational only to the degree that the teacher's particular view of the individual child on a given day, in a specific mental act, is enriched by the more general conception of the aggregate individual life, that of the contemporary social and institutional life of which he is a part, and that of the progressive evolution of the race; that is, these give horizon and perspective to what were otherwise local and particular.

Further, both the skill on the one hand, and the teacher's view of learning on the other, become rational solely as they are supported and directed by right thinking. The juxtaposition of these two notions, professional culture and general culture, suggests to one, whether he be teacher or not, some interesting opposition of thought. The paper thus becomes more or less controversial and is liable to be unfairly interpreted by one side or the other. The emphasis of a purely professional preparation omits just the factor that, by the common school teacher, seems to be most neglected. The emphasis of scholastic attainment takes one out of line with the prevailing tendency.

Incidentally then, along with the purpose to deal fairly with both aspects of training, there has been more or less conscious with the writer an ever present tendency to exaggerate the importance of right thinking, and a generous mental habit to make certain of its just recognition. Whatever of superlative, then, appears in the paper, must be charged to the enforced controversial tone incident to the character of the theme and the evident bias of the profession, not to any one-sided or partial view of it, intentionally giving disproportioned emphasis to either factor.

I think I need not be careful in this presence to prove my faith in professional training. Whatever I have said, or shall yet say, of the urgency of better scholastic qualifications, you will, I am sure, do me the courtesy and yourselves the credit to think of me as among the pronounced friends of such preparatory work. The need of pedagogical training and some directed preliminary practice is as well defined and vital, it may be claimed, as that for medical training, or the practice of law or preaching; and the efficiency of such training is quite as marked among teachers as among those of other professions. Nothing can be substituted, in the candidate's preparation, for this detailed and patient and systematic and philosophical study, and observation of school and educational questions.

My present care is to give what seems to me a much needed emphasis to the thought that the richer the scholarship, the safer the special training. The soundest pedagogical doctrine is dangerous if employed by the illiterate, and only less so with those who are satisfied with an elementary or other fore-shortened education. Some of those who are before me will recall how, at times and in places, the wisest of professional directions from Comenius' dictum of "learning through doing," down through Rosseau and Pestalozzi and Froebel, have received only distortion and been wrested from their original intent at the hands of well meaning but crude minds that saw in them only an interesting mechanism or a convenient recipe. Indeed, no device is quite safe except in the hands of those whose learning and resourcefulness and mental balance and intellectual acumen are such as to make the device unnecessary. The larger the mental mastery, the safer the special training.

Let it be premised, then, that the most zealous insistence upon the necessity of what is called "professional," does not therefore imply disregard of "scholastic" qualifications.

Speaking generally on the lowest plane and in the language of the uninitiated, what is to be taught must be known. He who does not have the facts of history cannot give them nor judge of their correctness when given. To communicate knowledge implies the possession of knowledge. He who would teach Greek must have Greek. The facts of science, their conventional classification and nomenclature, can only be taught, *i. e.*, conveyed or explained to another, by one whose possession they are. Symbols and signs, names, terms and figures, social forms and conventions, may be taught by him who knows them, and sometimes by the simple process of telling. The problem seems simple enough. For teaching on this plane, information,—abundant, accurate and systematic, is of supreme consideration. There is no teaching without it. When teaching means telling, there must be something to tell. The condition is equally binding upon every teacher of whatever rank, in whatever subject, to whatever age and attainment. The want is not more felt in history than in science; in language than in mathematics. The physician must know his medicines; the jurist, his law; philanthropy, the needy; the sheriff, wrong doers; the preacher, his creed. All are equally subject to the same law. That the first may kill in his attempt to heal; the judge hand down unwise, ill-advised, antiquated decisions; philanthropy, perpetuate improvidence; law breakers, slip through official hands; and the preacher be left to face empty or nodding pews, cannot invalidate the fact that, to bestow a benefaction upon society, one must have it to bestow.

The application to school instruction you have doubtless already made. It is not far to fetch. If teaching be taken to mean hearing lessons, the lessons must be had by the teacher. Other qualifications being the same, he best instructs who has most familiar and comprehensive knowledge of the sciences involved. The primary difficulty today in the introduction of science into our elementary courses, or manual training or vocal music or drawing, is in the lack of teachers who know these subjects, that is, know them in any facile, critical way. The same might be said, and with equal truth, of grade work in algebra and geometry, the principles of English composition, the rudiments of physical geography and general history and literary studies. The statement holds for the lowest grade of teachers even and the most mechanical plane of instruction.

Scholarship is by no means to be disregarded, even subordinated. It

may be frankly questioned whether, in the first flush of interest in the new profession for teachers, its advocates have not allowed themselves to minify the professional advantages even of an abundant and distinguishing culture. To correct the bias, if it exist, has been the purpose of the present paper.

Larger views in science and philosophy extend the horizon of one's experience in other directions. To have canceled one's provincialism by a prolonged study of history and literature; "to know the best that has been thought and said in the world;" these are the best antidotes to littleness and selfishness and jealousies in class management. The scholar easily drives out the drillmaster. The man-of-the-world is no martinet. Paucity of life and meanness of habit, local and commonplace motives, temporizing and easy satisfactions, are incident to primitive views only; and the most elementary training; and few qualities of mind are more unwholesome in the school room. Culture is suggestive and rich in interpretation; it discovers opportunity and resource; it has foresight and adaptation; it attracts occasion and learning and confidence and coöperation. It is not needed that anyone should emphasize to this body how helpful these all are to the teacher; incalculably helpful to him who knows how to use them.

No amount of professional training as such can take the place of this wide acquaintance with the race's thought; this participation in others' culture and achievement and success; this mastery of science and the humanities. Neither can a study of school questions, however extended and detailed, compensate for ignorance or indifference or mediocrity toward the world's rich life.

A vital defect in the average teacher, both in our own State and elsewhere, is his limited information upon matters of the most common concern and his still more unsatisfactory mental habits and culture. How greatly he has improved in all these respects can be really appreciated by those only who have critically observed him during the process.

It is not meant to hint even any disparagement of the common school teacher. Most of my professional life has had to do with the common schools and I believe in them. Acquaintance with the teaching body in most neighboring states gives abundant room and reason for pride in and respect for the honorable position held by those who administer the public system. Nevertheless, it remains true, I think, that the advance made in the northwest in recent years has been chiefly along professional lines, exhibiting relatively less progress in the culture that may be called liberal.

Unsatisfactory as are many of the results, the conclusions of recent psychology and pedagogy, the deductions from educational history, and the systematic and more or less valid directions of experts in school management, are rich and varied, and have been worked down into and become a part of the average school life, and aggressively influence the teaching as has not happened, I think, to the contributions of history or literature or science. Libraries and magazines and homes and schools and lecture rooms and best society and the pulpit, are full of the old mythologies and early superstitions and personal heroisms and art and much practical philosophy and ethical standards and moral discriminations and codes of social and industrial intercourse; images of pure lives and great achievement and unselfish devotions; exalted motives and divine patterns, whose lessons, made common among teachers, both urban and rural, would lend tone and

dignity and efficiency to much that is now class room dwadling and worse.

Abundant experience, richness of thought, generous scholarship, wide reading and travel, and the integrations of motive and purpose that only result from intelligently directed, continuous study, and formal training, may well be beyond the reach of most teachers, even as professional training seems now to be; but their presiding in the teacher's chair, in a moderate degree only, would impart life and significance to much otherwise aimless schooling.

DISCUSSION.

Opened by PRES. W. G. SPERRY of Olivet:

What we call culture must always be a matter for discussion, and each age must fix its own criterion. Man must investigate and analyze. There may be professions in which a broad culture is not really necessary. It is not a panacea for many of the ills of mankind, and if we divide life into the three sections of having, doing, and being, it is true that culture does not aid much in the first two. But because *being* is so much more than either of the others, I am glad to speak in favor of general culture. It must be subordinate to religion, as fine and varied culture without a religious element does not furnish any workable material to man. A man who neglects general culture is never satisfied with himself. It has satisfied some needs of my own life which mere education would leave blank and waste. True culture transmutes intellectual attainment into spiritual grace.

DR. HINSDALE:

In our recent pedagogical discussions we are enriching things as we did not formerly. The State of Michigan has been enriched by the addition of men of culture. I do not disagree with anything that has been said this morning, but would call attention to one fact. There can be no doubt that, under certain conditions, the general effects of what we call culture are weakening as measured by the efficiency of a human being for the work of life. A man of narrow range has great energy, so that even intellectual limitation has some compensations. Your man of narrow range generally knows what he wants to do. It does not take him all day to make up his mind. If you will look over the historic fields you will see that the men who have accomplished great things have been men who, by reason of narrowness of view, have been able to make up their minds and set about doing things they thought it was necessary to do. A vast amount of good has been done in the world by men and women of character who, by their want of culture, we do not feel any sympathy with. Whereas we want all possible breadth of view and all this range of cultivation, we do not want indecision and lack of strength as a result. I have known many men to become useful in the inverse ratio of their becoming broadly cultured. I have known teachers who became less valuable than they were, because they came to know more. They were formerly narrow teachers, very far from being ideal teachers, but useful in their places. They were weakened in regard to decision and energy of character. The Greek character was refined until it went out in "delicious aroma," so just here we need to be on our guard. In widening out the field, in adding to the range and scope and compass of the teachers of the country, we do not want to weaken character, to break down resolution, to take away from the man the force he now has; but we want to direct this force into wider and better chosen channels.

DR. FISKE:

There has been but one thought in my mind for a great while. I wish some plan could be devised by which, in inspecting teachers for their scholarship, we could inspect them as to their mental capacity and to themselves. It is true that a person may have profound scholarship and yet be unfitted for a teacher. It is not how much a teacher knows, but how he came to know it. He is a reader. How does he read? He is a student. How does he study? Dr. Boone says in his paper that the man is more than the method. If we could find out how the young man obtained his scholarship, we could better understand his character. Here is a very important field for thought. I wish we could find a way in which to develop the man for the work in the highest sense.

MANUAL TRAINING.

PROF H. H. BELFIELD, CHICAGO MANUAL TRAINING SCHOOL.

The greatest problem now confronting the American people is the education of the masses. It is a greater problem than the tariff question, since the solution of all political questions lies eventually in the hands that cast the ballot. The factors of the problem have been changed in the last hundred years. We have the same liberty, but not the same intelligent homes. Liberty is a good and a safe thing, in its place, and ignorance in its proper place is not harmful; but liberty and ignorance combined are dangerous. America furnishes liberty; Europe has contributed of its ignorance; and the result, a mixture sufficient to appall any one but the most confirmed optimist, is held to the lips of the American people. To convert this fatal mixture to a harmless and health-giving draught is largely the duty and the opportunity of the public school.

"The public school," said John Quincy Adams, "is one of the four great pillars of the state." It is firmly entrenched in the heart of every loyal citizen. It is always on the side of good order and of good morals. Whoever has ventured to suggest any radical or important change in the public school system, has generally been suspected of weakness of head or dishonesty of heart. When, therefore, the advocates of manual training suggested its addition to the already crowded curriculum of the public school, they were met with a storm of ridicule and abuse. Only eleven years ago, the friends of the movement were refused the opportunity of presenting the subject before the National Educational Association. But so active and persistent were its advocates, and so powerfully did the idea of manual training appeal to the good judgment of the American people, that at the meeting of the association five years later, the great Central Music Hall of Chicago was crowded by an enthusiastic audience which applauded Gen. F. A. Walker, Dr. C. M. Woodward, and others who discussed "The Place Manual Training should Occupy in a System of Public Schools." This is not the time to present a history of this educational upheaval; it must suffice to say that, although a determined and skillfully planned effort to squelch the intruder was made at Nashville, in 18__, public manual training high schools are now found in Baltimore, Philadelphia, Toledo, Chicago, Washington, Providence, Boston, Louisville, Minneapolis, St. Paul, Denver, and other cities, while hand work in various forms is taught in hundreds of primary and grammar schools of our own country and in many schools in Europe.

The term manual training is not yet accurately defined, and I shall consider it as describing the hand and eye culture usually found in the schools known as manual training schools. Much of the work of the kindergarten and the hand work of the primary and grammar grades may, with equal propriety, be called manual training. I shall now discuss only that work with which I am familiar.

The arguments for manual training are two; the economic or industrial, and the educational. Without doubt the introduction of manual training into American schools was suggested by its industrial value. The outcry against the uselessness of much of our school instruction, was growing rather than decreasing in intensity; and the value of hand and eye training was urged by the friends, not, as many suppose, by the enemies, of

public schools. To add to the efficiency of the public schools, to increase their popularity by rendering them more worthy of the confidence and affection of the people, was the aim of those who were denounced as fanatical enemies of the American public school system.

The industrial value of an education is worthy of more attention than it receives in this country. In this particular the Europeans are wiser than we.

The first great object of education is preparation for the battle of life. To the great mass of mankind this must always be the primary, if not the sole object of education. The great majority of children leave school at a very early age, averaging probably thirteen years. The cause most frequently assigned is necessity; the labor of the children is needed for the support of the family. This is no new thing; statistics have shown it for years. In many countries, including our own, it has been found necessary to prohibit by law the employment of very young children in factories and mines.

It cannot be honestly claimed by any one that the average boy who leaves school at thirteen years of age has acquired sufficient intellectual equipment to enable him to support himself and a family, when he shall have one, as a clerk, book-keeper, cashier, or in any such occupation. When he leaves school at the close of the grammar school course—which is at the age of about fifteen years—when he has mastered, we will assume, the intricacies of interest and discount, he is fitted or soon may be fitted for clerk or book-keeper. But it is well known that the world does not need such an army of clerks and book-keepers. And it ought to be known that, from a purely business point of view, one of the worst things a boy can do is to secure such a position. To thousands it is a living tomb.

But it was soon perceived that manual training has an educational value wholly distinct and apart from its economic value, and it is by reason of its educational value that it has made such rapid advance in the last few years. There is really nothing new here. John Locke remarked, "Schools fit us for the university rather than for the world," and said that the education of a gentleman should include "a trade, a manual trade." Emerson said, "A man should have a farm or a mechanical craft for his culture." The proverbial ingenuity of the yankee is not developed at the school alone, but is a product of his school life and his farm life. One of the most observant of Englishmen, Mr. William Mather, noticed this. Of rural life in New England he says: "Every kind of work has to be done at home. Blacksmiths', wheelwrights', machinists', carpenters', and hydraulic work becomes as familiar to the farmer in a rough and ready way, as ploughing, tilling, sowing, and reaping. All handicrafts, in a greater or less degree, are acquired. The farmer's boy is thus provided with an industrial training of the best kind in and around his home. His wits are sharpened, his perceptions developed. There is a large field for the immediate application of knowledge acquired at school, on the one hand; on the other, the school exercises and lessons are more readily understood by a boy or girl having in daily life to deal directly with natural forces and law. These district schools, holding only twenty weeks in the year, associated as they are with agricultural and mechanical occupations, produce better results, as a whole, among the artisan classes than the city schools, the attendance at which is for the entire school year of forty weeks. My attention has been drawn to this fact by many employers and educationalists, and it has been confirmed by my own observations. It

suggests the importance of introducing into the elementary public schools of cities some industrial training. 'Our brightest boys come from the country,' is a phrase which has become very familiar to me in America." John Fiske remarks of the old New England village: "The universality of literary culture is as remarkable as the freedom with which all persons engage in manual labor." We have here described just what the manual training school provides, the alternation of mind and handwork. The physiologists have for many years insisted upon the necessity of combining muscular and intellectual training. Dr. Henry Mandsley says: "It is a foolish and fruitless labor to attempt to put asunder mind and body, which nature has joined together in essential unity. The right culture of the body is not less a duty than—is, indeed, essential to—the right culture of the mind. The muscles are not alone the machinery by which the mind acts upon the world; their actions are essential elements in our mental operations."

The later psychologists have some interesting and instructive views. In treating of the memory, Prof. Kay writes: "We cannot remember a thing perfectly by means of the brain alone, but must also call into exercise other parts of the system, especially the organs of sense or the muscles. Defects of memory are, we believe, mainly owing to this, that recollection is made too much an intellectual operation depending on the brain. When the brain alone is called into activity, then is the memory of the fact imperfect; and this is the character of the great majority of our recollections." "But not only is the memory not alone confined to the brain, but there is every reason to believe that the mind itself is not confined to that organ, but is diffused throughout the system at least as far as the nerves extend; and they stretch to all parts of the body." "There is no good ground to suppose," says Sir William Hamilton, "that the mind is situate solely in the brain, or exclusively in any one part of the body." So to the same effect, Prof. Cleland, Prof. McKendrick, G. H. Lewes, Isaac Taylor, Dr. Thos. Brown, and others. Besides adding to the pupil's stock of knowledge at first hand, manual training in my opinion, developes perception memory, imagination, attention, the reasoning faculty, and particularly judgment and will, the two last named to a far greater degree than any purely academic study.

Although a manual training school is not a trade school, its industrial features are evident. And permit me to say here that, in my judgment, one of our greatest needs as a nation is a system of trade schools, such as are found in some parts of Europe, and just such education as is enjoyed by Indians and negroes at Hampton, and by Indians at the Santee Agency, Nebraska; schools in which the boy is developed into a self-supporting, self-reliant, intelligent, upright man. In these schools, one-half of the school day is given to academic work: in the other half the Indian boy learns to till the soil, to build his house, to repair his plow and wagon, to make his harness and his shoes; and the Indian girl is taught to cook, to sew, to make clothes, to make her home cheerful and attractive. I do not advocate the teaching of trades as a part of public school work; I think this should be done by private enterprise. It is well to consider, however, that in your magnificent university, the crowning glory of your admirable State system of education, there is provision for the education at public expense, of the lawyer, the physician, and the engineer; that you have also a school of agriculture, but nowhere in your State is there any public provision for the teaching of trades, except to your defective classes and your

criminals. Is it not a fair question to be asked by the blacksmith, the machinist, the carpenter, the shoemaker, the plumber, the plasterer, the stonecutter, and many others, why the State of Michigan (and other states as well), draws the line where it is drawn? But I was requested to prepare a "practical" paper, which means, I suppose, a paper containing ideas which have been or may be put into practice. I know no better method of complying with this request than by presenting a brief account of the Chicago Manual Training School, which, as it is the oldest independent manual training school, may be regarded as typical.

The Chicago Manual Training School, now in the eleventh year of its existence, is of high school grade, admitting boys who have completed a grammar school course, or its equivalent. It is not a part of the public school system of the city or state, but is owned and controlled by the Commercial Club of Chicago. The following is a brief outline of its three year course:

1. Mathematics: elementary algebra, plane and solid geometry, plane trigonometry. For pupils training for engineering schools, spherical trigonometry and higher algebra, and to the best of such boys, analytical or descriptive geometry.

2. Science: physiology, physiography, physics, and chemistry, the last two, each one year with laboratory practice.

3. Language and literature: English literature, general history, civil government, and political economy or Latin or French.

4. Drawing (five hours a week) free hand and mechanical including projective and perspective, machine and architectural.

5. Shop work: (seven and a half to ten hours a week) wood work, foundry, forge, and machine shop.

The daily work of the pupil is so arranged that drawing and shop work alternate with the usual school recitations, of which each boy has three daily, in addition to his daily drawing and shop work. The school hours are six. As far as my knowledge extends, no boy has ever been withdrawn from ill-health caused by overwork. The pupils maintain a foot ball eleven, and their muscle and skill have secured for them a respectable standing in the high school league.

It is proper to ask: What is the object of this training? What is its result? How does the manual training school graduate compare with the high school graduate? What becomes of these boys?

1. The object of the course is general education. We do not aim to teach trades or make mechanics. We make blacksmiths' and lathe tools, lathes, steam engines, etc., but not for sale.

2. One immediate result is that but little of the teacher's attention is given to discipline. The interest of the boys in their work is noticed by every observant visitor. The energies of the boys are concentrated upon their work. Manual training is worth its cost simply as a means of discipline. Another immediate result is improvement in physical health and strength, and a gain in manly self-reliance. Still another is the continuance of boys in school. The principal of the Toledo high school, in which manual training is optional, reports a gain of 100 per cent in attendance and a much larger per cent of boy graduates, and attributes both gains to manual training. In my own school about 45 per cent of those who enter remain the full three years, notwithstanding the severity of my examinations. The greatest loss is during the first year. The class of '93 entered 160 strong; 89 entered the senior year of whom 87 graduated

The class of '92 entered 156; of these 71 entered the senior year and 71 graduated.

3. The amount of "book work" done by the manual training school boy fully equals that done by the average high school boy; but it is more mathematical and less literary. His mental grasp is at least equal. Of my class of '93, 15 entered Cornell University, 5 of the 15 were admitted to the sophomore class, and they have done their work so successfully that they have been exempted from all the term examinations from which students were exempt by reason of superior standing. This is proof that they compare favorably with young men who have had four years in high school and one year in the university, while they are graduates of a three years manual training school. For several years we have fitted boys for the third year of a western university, whose president writes me that they are not surpassed in ability or earnestness by their classmates who have reached the junior year in the regular way.

4. About two-fifths of the graduates of the Chicago Manual Training School continue their education in higher schools, chiefly in schools of engineering. Of the 300 who had graduated prior to June, 1893, 121 were at that date, either students in or graduates of higher institutions. The others were in business of various kinds; engineers, architects, superintendents, draughtsmen, clerks, book-keepers, etc. The success of some of them has been remarkable, success which they all attribute to their school training. Very few of them will ever work at the bench as mechanics for any length of time. Several of them, beginning at the bench, were soon promoted on account of their intelligence and ability.

Several years ago, in discussing manual training, Dr. W. T. Harris spoke of the desirability of "directive ability" rather than of manual skill. It seems to me that the possession of this "directive ability" has been displayed to a remarkable extent by graduates of the Chicago Manual Training School. To them have been committed the erection of large and valuable machinery, the control of hundreds of men, the superintendence of important engineering works, and yet the first class graduated only seven years ago. In my opinion, the greatest advantage possessed by the manual training school graduate is the superior development of his judgment and will, which, it occurs to me, is very much what is meant by Dr. Harris' "directive ability." Having been for years principal of a high school, before organizing the Chicago Manual Training School, and following with interest the careers of graduates of both schools, I am impressed with the superiority of the manual training school graduates in the sturdier qualities of manhood.

DISCUSSION.

Opened by PROF. H. E. KIMBALL of Bay City:

I think there is very little doubt among educators today that manual training is of great value even in our public schools, because of its great psychological value. I believe manual training to be necessary not only in high schools, but from the lower grades up. It is difficult to know how far to carry this movement, but we can take advantage of such resources as lie in our way, The Bay City schools have an equipment that will accommodate thirty-six students at an expense of but two thousand dollars per year; and though it has been in existence but a year and a half, it has demonstrated that mauual training can be introduced into our public schools. I grant that the aim of schools should be to teach pupils how to live, but I think there are few men who do not know how to make a living who know how to live. If we lay down the general rule that the knowledge which is best for living is also best for discipline, we have struck the key note of manual training. The greatest obstruction to the intro-

duction of manual training into our schools is the inability to apply it. In response to the question, "Where shall it be taught?" I have only to say that, in an ideal course of study (which of course we cannot hope to start out with), manual training will begin with the lower grades and go through the whole school.

SUPT. SMITH of Bay City:

The subject of manual training is not well understood even in Bay City, and few understand that it is for the sake of education as well as to give a trade. One difficulty we have encountered is to find suitable instructors. Every good workman cannot impart knowledge. We must largely depend upon the graduates of such training schools as the one at Chicago. I have been somewhat disappointed in the increase in attendance brought about by the addition of our training department, still the number of graduates has been doubled. It is an astonishing thing that the young people of our day will attempt to take a course of study that leads directly in the professional line, and that many of them find no occasion for mechanical skill. We must have men capable of directing the education of the great mechanical forces of this country. The laboring men who are drawing the largest salaries in America today are not Americans, and if we wish our leading artisans to be loyal citizens we must educate our boys in the trades.

Meeting adjourned.

AFTERNOON SESSION, 2 p. m.

Supt. McKenzie of Muskegon explained to the association the arrangements made by the Hackley Park association, stating that the assembly proper would convene about July 20 and continue for two weeks, and that there would be a lecture course of twelve entertainments in which two of the speakers might be chosen by the teachers' association. Course tickets entitling admission to the grounds for $2.

Pres. Cheever exhibited a fine new gavel made at the Chicago Manual Training School and presented to the association by Prof. Belfield, for which suitable acknowledgment was made.

SUPT. PATTENGILL: The committee in charge of N. E. A. arrangements, wished me to present the matter regarding Michigan's part in the next summer's meeting which it is virtually decided shall be at Duluth. Michigan is close by Duluth. We should be well represented. We should have 1,000 teachers there. College presidents, superintendents, principals, district school teachers, should all turn out. Michigan spends a mint of money every year in advertising its resources and advantages. There is no way to advertise the State better than by sending to Duluth specimen copies of Michigan schoolmasters and schoolma'ams. We'll get the lowest possible rates by land and water and, if we do not come back loaded down with information enough to sink the ship, we'll at least be loaded with inspiration that will help us all through the year. It will do us good to know that so many are interested in the work.

As the evening program comprised a lecture by Supt. Draper of the Cleveland schools, and also a reception by Governor Rich, Orr Schurtz moved that the teachers meet at the Congregational church for the lecture at 8 o'clock local, and thence repair to the Executive Parlors. Since one of the "Citizen's Course" lectures also occurred on this same evening and they had obligingly consented to postpone beginning until 8:30 stand-

ard, for the convenience of the teachers, this motion was finally amended to meet at 7:30 local, so as to accommodate any one desirous of attending both lectures.

The association then separated into two parts, the College Section repairing to the Senate chambers, the Primary Section taking up its own program.

PRIMARY SECTION IN REPRESENTATIVE HALL.

MISS GEORGIA BACON of Grand Rapids, Chairman:

I think that all of us who have been for any time teachers have found that the greatest thing we have to contend with is choppy work. We begin at 9 o'clock in the morning and hear children's lessons on manners and morals, and before we get them interested in that we stop and give them a lesson in writing; before they become interested in that, reading and numbers. And so it goes on all day long, and the effect of it is that the children can change quickly from one thing to another, but it is hard for them to carry on a line of connected thought. With this in mind the committee concluded that the best subject we could take would be that of "Unification of Work in Primary Grades of Public Schools."

CONCENTRATION OF STUDIES.

REGENIA R. HELLER, DETROIT NORMAL TRAINING SCHOOL.

As far back as the Greeks, educators have considered the development and perfection of the mental activities and the formation of character as the ends of education; but the means employed to secure these ends—that is the instruction given—have been as diverse and various as the ideals which have prevailed.

With the Greeks the ideal of a beautiful soul in a beautiful body was attained by a union of physical, intellectual, and moral culture. The purpose of education as the Christian Fathers conceived it, led them to occupy themselves solely with religious instruction. Comenius maintained that educational methods should follow the natural development of the mind; accordingly the branches and studies should be adapted to the capacity of the pupil; also the subjects which are intrinsically connected should be bound together in teaching. When the paradoxical Rousseau pleads so eloquently for a study of child nature, one of his cardinal principles rests upon the misconception that, at each stage of life, a certain mental faculty is predominant; consequently he would first put before the child matter to exercise the perceptions, later the judgment is to be cultivated, and finally the sensibilities. Pestalozzi, who is much preoccupied with the utility of sense perceptions and the value of exercising the self-activity of the child, urges a series of graded object lessons; and his follower Frœbel, holding that each individual is an epitome of the race, supplements Pestalozzi's system with a series of organized plays and occupations which enable the child to repeat the typical activities of the race.

And now we are ready to consider the principles of the Herbartians, upon whose system of psychology and educational ethics are based the form of instruction known as the co-ordination, or concentration, of studies.

There are, say these psychologists, three phases of the psychical life; representation, feeling, and desire. Representation brings into consciousness the material world by means of perception, appreciation, imagination, memory, and judgment; through its agency, also, mental conditions may be examined. Without representation, feeling and desire do not exist and only those impressions which appeal to us lead to action. The order of the movement is knowledge, interest, volition, action; action is conduct, conduct is character.

Hence the emotions are such a significant factor in the acquisition of knowledge and inactivity, we as teachers need to know what interests the child; that is, what is vitally related to him. What child is not interested in the plays, duties, joys, and sorrows of his mates? Or again, is not alive to the varying aspects of nature? This concern for his associates, which we may term an interest in humanity and society, also his love for nature is utilized in deciding upon a natural course of instruction. How the child enjoys the accounts of the fortunes of Siegfried and Arthur, Franklin and Washington! Who can measure the live interest he feels in observing the birds, the flowers, the brooks, the clouds? In thus forming the circle of thought, we not only facilitate the process of learning, but likewise give the child the material from which to form right standards and high ideals; and only when the child has had such an opportunity, may we justly expect fitting conduct. Can we, for example, conceive of one who really knows the good, the true, and the beautiful acting the opposite? One who really comprehends the sacredness of the life principle, ruthlessly destroying even the lowest forms of life?

Those who have made a special study of child psychology tell us that the child does not begin life with a fully equipped rational will, but that this activity develops from the unconscious, uncontrolled movements of the babe, which we call reflex action. After a time these uncertain movements give place to the instincts, such as those of play, fear, destruction, etc.; and the babe's attention is attracted by brightly colored objects and decided sounds. When the child reaches the school age, he learns to attend to a representation, not only because it is attractive, but for the reason that he wills to study it; this phase of the activity is voluntary attention. Now, in attending adequately to a subject or act, the whole round of mental activities, perception, appreciation, memory, imagination and judgment, must be involved in order to comprehend the cognition in its many sidedness. Then comes reflection or thinking, that process which organizes all the impressions that have been received and leads to expression; the exercise of the rational will, which is the highest form of activity and means rational freedom. To summarize; the stages of development are reflex action, instinctive action, non-voluntary attention, voluntary attention, reflection, rational will.

History which records the psychology of the race shows us that the race has developed in much the same manner as the individual does; or, better, that the individual development follows the evolution of the race. When the child-man saw the sun set at evening, he feared that the sun was dead; a mighty dragon had slain it. "Will the sun ever come again?" he cried. He retired to his weak, miserable habitation filled with feelings of insecurity and dread, for who could tell what might befall him during the long dark night? But, when the first beneficient rays of light appeared in the east, all was joy again; the uncertainties of the night were forgotten. The sun was a strong man who "delighted to run his course." The sun

was the Good Shepherd driving the heavenly cows, the clouds, to pasture. After a time would come, he knew, the welcome rain to refresh the thirsty earth. Again, the susceptible primitive man wondered and personified in his childish, poetic way, when he observed the phenomena of the ever changing seasons. The lovely blooming earth bereft of her sweet flower children by the cruel, cold winter frost, is the "sleeping beauty" who pricks her finger on a spindle and straightway she and all the palace attendants fall into a long sleep. The warm, grateful, rays of the spring sun, awakening the slumbering earth, are the prince with the golden locks whose ardent kiss awakens the sleeping beauty. So we might multiply examples which would tend to prove that, to the primitive man as to our children today,

"The earth and every common sight,
Seem
Appareled in celestial light,
The glory and the freshness of a dream."

All these problems which suggested themselves to the primitive man and the crude poetic answers he made, as well as the feeble, tentative efforts he put forth to free himself in his closely circumscribed environment,—all these tendencies are manifested and repeated in the daily lives of the children around us.

Do you remember, for instance, how Margery wondered? "The sun," said she, "is a great golden flower, a flower without a stem; or perhaps it has a stem behind it in the sky, which reaches down below the sea to a root." She heard the singing of the birds and wondered what the music was. How did the bird get the music in its throat?

Perhaps you recall how the poor, lonely little Amrie, while tending the geese would question and answer in her naive childish fashion. Amrie's soul would soar upward and "cradle itself in unlimited ether." Even as the larks sang and rejoiced without knowing the limits of their fields, so Amrie's soul would soar above her surroundings. "Yes," she was wont to say, "I have observed that everything that grows must move about. The bird flies; the beetle creeps; the hare, the horse, and all amimals must run. The fish swim and so do the frogs. But there stand the trees, the corn, and the grass; they cannot go forth and yet they must grow." Then comes the wind and says, "Only stand still and I will do for you what others can do for themselves. See how I turn and shake and bend you! Be glad that I come! I do good even if I make you weary." Is there anything so beautiful, so wonderful as the "budding soul of a little child"?

But to return. The instinctive spirit of progress asserted itself anon, but was modified and even retarded sometimes in its onward march by the more conservative instincts. Ever in the end, however, the spirit of progress prevailed and the race has evolved, just as the individual does, into a strong, broad, grand manhood. This idea of the anology between the race and the individual development has been held by many of the world's greatest thinkers, such as Gœthe, Lessing, and Schiller; Kant and Hegel; Huxley and Spencer; Pestalozzi, Frœbel, and Herbart. Gœthe says; "Although the world in general advances, the youth must always start again from the beginning and as an individual traverse the epochs of the world's culture."

All this testimony has led educators to think that instruction of the pupil should follow the culture epochs of history, because the individual

will certainly be much interested in that which is so closely related to his own experiences and ideas, and is, therefore, within his power of appreciation. Again, the epochs selected being such only as have been portrayed by some great world-voice, or genius, have moral content, thus furnishing food for the enrichment of the sentiments. Lastly and most significant, the pupil will some day have duties assigned him in society. In order, however, to perform his duties adequately, he must comprehend this present complex civilization. How is he to be enabled to do this? By the gradual growth of his own personality nurtured by a corresponding matter of instruction, which proceeds from the simplest experiences of early life to the manifold relations of the present.

Having considered the psychological and ethical principles of the Herbartians, we may now discuss the corresponding system of instruction,—the concentration of studies. We found that the pupil is vitally interested in man and nature. The studies which deal with man, the humanistic subjects, are such as history, literature, and language; those which have to do with nature are the natural sciences. These thought studies, the humanistic and natural sciences, are intrinsically connected, therefore cannot be fully comprehended unless they are pursued so as to reveal their interrelation; this can only be done when they are correlated in the curriculum. If, on the other hand, these subjects are studied separately, the result is isolation and disorganization, the very tendencies against which we teachers wish to guard. Children should be aided in their efforts to see relations, to see unity in apparent diversity, insomuch as an insight into the oneness of thought leads to the unity of mental life. Further, a many sided, well correlated knowledge is essential to happiness; for "The life of man is a self evolving circle which forms a ring imperceptibly small, rushes on all sides outwards to new and larger circles, and that without end."

The acceptance of the thought of the unity of mental life does away with the old discrete faculty notion. Consequently, we no longer speak of studying the mathematics to discipline the reasoning powers, or history to strengthen the memory, or poetry to cultivate the sensibilities; but instead we think of the whole being as a unit developing simultaneously.

It appears, then, that the so-called disciplinary studies, mathematics, grammar, etc., have lost their former prestige and that the question of educational values, what studies are of most worth, is to be decided upon another basis. The fundamental principle of relative values should rest upon the consideration of what studies are best fitted to form the circle of thought; the historical series, which contain the essence of moral culture, and the nature studies, which give an exposition of the long struggle during which time man has overcome nature and made it subservient to him. Long ago a despotic king tried to chain the ocean; now a cable in this mighty water unites the continents. These studies are character forming.

But what of the formal studies? They should hold a secondary place, should be of service to the real studies; that is, should be utilized as a means of acquiring these subjects. Do you think that this principle might relieve the overburdened curriculum? Would emphasizing the essential studies and relegating to their proper positions the ones which may be made contributory to these, prove helpful?

Having given the thought-subjects the central place, it gives us two great parallel-lying groups of instruction. Is it possible to arrange one of these series of studies with reference to the other so as to produce more

complete unification? The Herbartians think it can be done in this wise: the activity of the will is promoted as well as restricted, on the one side by the moral ideas which man gleans from history, on the other side by the forces of nature; hence man himself, as related to history and nature, should be the central subject of study. Ziller has constructed in accordance with this idea, a course of study which gives the epochs of German and Biblical history the central position:

1st	school	year		Märchen
2d	"	"		Robinson Crusoe
3d	"	"	Sacred	Patriarchs and Moses
			Profane	Thüringer Tales
4th	"	"	Sacred	Judges and Kings
			Profane	Nibelungen Tales
5th	"	"	Sacred	Life of Christ
			Profane	Christianizing
6th	"	"		Kaiser period
7th	"	"	Sacred	Paul
			Profane	Reformation
8th	"	"	Sacred	Luther / Catechism
			Profane	Nationalization

For reading lessons the children are given such highly interesting matter as the Nibelungen Tales, stories from the simple lives of the patriarchs or from the stirring Reformation Period. Would you be surprised to learn that the reading is good? In their geography lesson they learn about the topography of Palestine, or the vegetation and life of the Odenwald where Siegfried spent so many of his days. If Robinson Crusoe be the subject of study, how delighted the children are to travel across the ocean in imagination, seeing the sights, hearing the sounds that Robinson saw and heard. Finally they are wrecked upon the lonely island and experience all the thrills of being alone with Mother Nature. What about political geography? That should be reserved for the higher grades when the study of modern history is introduced, enabling the pupil to appreciate the relative position of his fatherland and other countries. While the child rambles through Odenwald with Siegfried, he is observing and studying the forest life, some of the common animals. The story of the Land of Mist makes him eager to know more of the atmospheric conditions. Everywhere a riches of material is contributed to the nature studies. Again, Siegfried ascended high mountains, crossed rivers and lakes, and rested in fertile valleys. The numbers which express the height of these mountains, the length and width of rivers traversed, and the extent of the fruitful valleys, supply matter for number problems. What boy who has studied about Luther would not be interested in drawing a representation of his house at Worms; if he has been studying the city of Cologne, will he not like to draw some of the artistic forms of the famous cathedral? Indeed, this drawing work would amount to a liberal æsthetic culture.

In an article published in the *Educational Review*, Dr. DeGarmo proposes working out the plan of co-ordination of studies on somewhat broader lines than those advocated by Ziller. He states that, when the science work begins in real earnest as it does in the third and fourth grades, the attempt to pursue it with reference to history is unsatisfactory and does not permit of systematic study. Accordingly, instead of having but one central group of studies, Dr. DeGarmo proposes three co-ordinate

cores of instruction and one universal binding study which shall knit these three cores of unification into one organic whole.

The first center of unification, the history series with their related formal aspects, language and reading, may follow, as Ziller advocates, the historical progress of history and literature, beginning with the fable and gradually developing into history and literature proper. The science group, together with the mathematics which are studied for their disciplinary value as well as for the utility of the information derived, constitutes the second core of instruction. The third core of instruction is the economic, which presents the relation of nature to man and of man to nature. These two phases are represented in the curriculum by manual training and by social, political, and commercial geography. This second phase of the group may be enforced by such literature as Robinson Crusoe, Swiss Family Robinson, More's Utopia, etc., which afford a contemplation of the social and economic field.

Geography treats of the theatre of history, showing us how the physical conditions of a country have been instrumental in making history. It is intimately related to the biological sciences, insomuch as the flora and fauna of a region are determined by climate, soil, and configuration of that locality. In other respects, too, geography may be regarded, as Huxley aptly expresses it, "A peg upon which to hang all the sciences." Commercial geography, as we have noted, is a portion of the field of the economic group. It is an interesting psycological study to remark how, along with an exchange of material commodities, there has been an accompanying interchange of ideas which has made the peoples mutually helpful. When we reflect upon the vital relations which geography sustains to all these cores of instruction and how it unifies them, it seems just to consider it, DeGarmo says, the universal binding study.

Col. Parker maintains that the whole universe impinges upon the consciousness of the child and that, all unconsciously, he is studying geography, geology, mineralogy, physics, chemistry, botany, zoölogy, and history. If, then, when the boy enters school, he is encouraged and directed in the continuance of this spontaneous investigation; led gradually to discover the relation, yes, even to use the mutual services that these central subjects render one another, then education is a natural process and development. In order to do this, no one of these central subjects should be isolated, but all should be taught synchronically as found in the environment of the child during the season.

The other studies of the curriculum are to be imparted as auxiliaries to the thought subjects. The three forms of attention, reading, oral language, and observation, are modes of thinking which may be so directed as to be the means of studying the essentials. Reading should not be taught as such pure and simple, but the child should be stimulated to overcome the mechanical difficulties because of his interest in the educative content of the subject matter. Number and form are related as modes of judgment. Thus, life is energy manifesting itself through matter-form. I know of the life principle of yonder tree, simply because I see the tree itself; consequently a knowledge of type forms is indispensable to the apprehension of a natural object. By means of number we are enabled to make the exact judgments which are essential to the comprehension of some of the phases of the real studies. Mr. Jackman tells us further that the pupil may, through his own efforts, reach many of the generalizations and laws of science if he is directed in gathering accurate data. The forms

of expression, making, modeling, painting, drawing, speech, and writing, are the means of intensifying and objectifying the impressions and thoughts derived from the essentials.

In the Detroit Training School our principal, Miss Scott, has introduced a plan of concentration based not upon geography, the environment of man; not upon epochs of national history which would not supply appropriate material for the earliest stages of child life; but upon the ethical ideal of furnishing material which shall fit our children for the performance of their function in the school, society, church, and State. This question of the performance of one's function—our character idea—involves another thought also. The individual receives gifts of inestimable value from the race. Think, for an instant, of the difference between the life of five or six hundred years ago and of that of our enlightened century. These advantages we recognize as the earnings of all the peoples who have preceded us. Do we, can we, render any return for all the benefits we receive? By living the broadest, highest life of our generation, beyond a doubt we advance the race.

In accordance with this principle, culture epochs of the Aryan race, together with the Glacial and Indian periods, have been selected as the historical basis of our work. Each one of these periods is represented by a historic child who is studied in his relation to all the institutions of society. This child's efforts to perform his various duties according to "the best he knows" are reflexes of the ethical notions which were prevalent during the age in which he lived. Our course is so arranged that the pupil studies the boy who typifies prompt obedience, when he himself is in that stage of development; he is given an opportunity to read the stories of the voyages of Columbus and the defeat of the Spanish Armada, when he himself is thirsting for adventure. Will not this help the child to traverse more quickly the various stages of development and bring him sooner to the loftier ideals of our present ethical status?

The periods studied in the first grade are those represented by Agoonack, the little Eskimo sister; Hiawatha, the little Indian boy; Kablu, the little Aryan boy who lived long, long ago in a frail, little, log house which nestled against a slope of one of the Hindoo Koosh Mountains, and perhaps listened to stories of the Sleeping Beauty and Cinderella with even more interest and sincerity than our children; Darius, the Persian boy, who learned to ride, to shoot, and to speak the truth, afterward going to Babylon under his great king, Cyrus, where he came in contact with the advanced civilization and literature of the Semitic people.

Cleon, the Greek boy, and Horatius, the Roman lad, are studied in the second grade. When our children study Cleon, they go to school with him and hear many of the stories from the Iliad and the Odyssey; walk with him and view the beautiful structures on the Acropolis (for Cleon lived during the age of Pericles); attend the Olympic games and feel that "Not hate, but glory made these chiefs contend." With Horatius they rejoice and sorrow over the adventures of Aeneas; applaud the heroic ancestor who "kept the bridge so well in the brave days of old"; visit the senate and listen to the debates of the statesman, and march in many a civic procession.

Wulf, the Saxon boy, who loved to listen to the stories about Siegfried, and whose uncles, Hengist and Horsa, settled in England; and Gilbert, the lad of chivalry, who lived in a castle, served his lord and lady, and might have seen the beginning work on many of the stately cathedrals of the world, represent the Mediaeval period.

Columbus, the Italian boy, an English boy of the Elizabethan age, and a Dutch boy, all living during the time of the Renaissance, show the progress following the invention of printing, gunpowder, and the mariner's compass. While studying these boys we embrace the opportunity of acquainting our children, by means of reproductions, with the high art of the Renaissance. For modern history we draw our material from the historical characters of our own country.

In nature-study there are two lines of work. One may be called the "perspective view," which gives the entire round of activities in the life history of a plant or animal from seed to seed again, from the egg to the egg again. These points are summed up in such sequences as the following:

The bird eats.	The corn is planted.
The bird grows.	The corn sprouts.
The bird flies.	The corn blossoms.
The bird builds.	The corn bears.
The bird lays.	

The other line of the science work is the season study. I need scarcely state that the formal studies are an outgrowth from these thought subjects. Our arithmetic, for example, illustrates how, from time to time, man has made various standards in order to measure himself against his environment. When the children find that man did not have the yard, for instance, until the necessity for its use arose, they begin to appreciate the need and utility of standards. A feature of our work this last year is what we have called expression work—the children have built castles, temples, and even organs with the building blocks; made the dresses of the cliff boys and solar system. Our music, too, has often been closely related to the history, as when studying the gallant knights of the Round Table we taught the air of Schubert's Serenade.

You may ask what are the results secured from this plan of instruction. We should answer, never have our children been more deeply interested in the school work. The stories from history and literature are a source of perennial delight. The presentations from art have quickened sensibilities. The science work has made them alive to the beauty of the cloud, the star, the blossom. Much have they marveled when they gained a slight insight into the laws of nature. "For the wisdom of the wisest being God has made, ends in wonder," and the loving reverence which they entertain for nature is indeed beautiful. This inspiring contact with the majestic and beautiful in art, this dawning consciousness of the order and harmony of the universe, will surely prove, we trust, powerful agencies in the formation of high ideals of character.

UNIFICATION OF WORK.

MISS MAUD BALL, NORMAL TRAINING SCHOOL, YPSILANTI.

Many years have elapsed since Agrippa said to Paul "Much learning doth make thee mad." It is this utilitarian phase of the subject which we desire to bring before you for your discussion. It may be understood in two ways:

First, a unification or concentration of thought by means of a specific

subject, as language, science, or reading, to which all others are subordinated.

Second, a unification or concentration of thought by closely relating all subjects to each other by reference and illustrations, and by connecting all subjects to the home life of the child.

Since the three papers which immediately follow, consider the specific studies as means of unification, I shall confine myself to the second.

When writers in educational journals of such prominence as the *School Review*, are charging the primary schools with "scrappy" work because of the multiplicity of classes, we must prove that the studies are essential to the child's symmetrical development or accept the charge.

Is it true that we are deteriorating because of this multiplicity? Should we drop our physical culture, elementary science, drawing and language, and go back to the oft quoted three R's that did so much for our respected forefathers?

Some educators claim that children could and should be prepared for college at a much earlier age than now. Are we wasting their time? Truly it is a serious question; and unless we can prove that these varied branches open to the child the full meaning of his own life in its relation to home, town, county, state, country, and nature, we must stand convicted of robbery of time.

Granted that there is need of reform. Take the high school student. What one can recall, six months after graduating, any of his twelve weeks in physics, twelve weeks in botany, or twelve weeks in astronomy. He has the disciplinary value left, but all the rest is forgotten because not connected with any other study, nor with his home life. He has regarded each study as so much of the curriculum which must be learned in order to "complete his education." Unification of thought will remedy this, for then each branch will be shown in its correlation to others and in its application to life.

Are there not many teachers who have studied the piano, voice culture, elocution, and many other branches but to store away their knowledge in locked chambers of their brains, because they fail to see their application to the every day work? Should we not make it a study to draw from our stores of knowledge that we may enrich all work?

Some one has said, "It is not that the school teaches too much, but that it fails to put into the learner's life the knowledge it does teach," and Bodenstedt in his translation from the German expresses the same idea in the poem, "Wisdom and Knowledge":

"Friend, wouldst thou know why, as a rule,
Bookish learning marks the fool?
'Tis because, though once befriended,
Learning's pact with wisdom's ended.
No philosophy e'er throve
In a nightcap by the stove.
Who the world must understand,
In the world must bear a hand.
If to wisdom your not wed,
Like the camel your bested,
Which has treasures rich, to bear
Through the desert everywhere,
But the use must ever lack
Of the goods upon its back."

Let us then unify our work so that no effort is lost. Our opening exercises can be based upon nature, which, in her constant and regular chang-

ing, will furnish a delightful variety. What could be closer related to the child than the conditions of the world with each changing month? This should form the basis for the exercises at the close of the term or year.

The astronomical talks, with the work of the science, drawing, reading, and spelling, will furnish plentiful material for arithmetic illustrations.

Select for our songs those which pertain to other subjects. Advocate the use of more readers like the Normal Course Reader, that furnish delightful educative matter, and we will soon exterminate some of the interesting matter which affirms that "The dog bit the fat rat on the lip."

Present the practical side to the children. Why do we use the arm movement in writing? Why do we sit erect, feet on the floor, arms on the desk with elbows projecting? Why do we take these breathing exercises? What good will these physical culture exercises do? In what way can you put your knowledge into practice?

Do some think this would produce self-consciousness in the children? I think not, but rather it would free them from painful self-consciousness, because giving them applied truth.

It is quite customary now for pupils to make their parents some Christmas gifts. Let this be legitimate work and let it be the work of the children. By legitimate work, I mean that which grows from the other work of the school.

I may be pardoned if I refer to some work done by a pupil of my own school for that purpose this Christmas. Having the pattern of a maple leaf, he cut twelve leaves on which he drew scrolls, putting in the names of the months and the number of the days. These were then tied together with ribbon and his gift of love, talked about in the morning exercises, was the unification of work in many branches. The appreciative teacher is enumerating them—opening exercises, manual training, drawing, arithmetic, science, and penmanship.

Let us have this same unification in public exercises. The time has gone past for giving "scrappy" recitations and songs, with no bearings on the work of the room. Let there be a central idea which pervades the whole. Are we to be less systematic than the business man who makes everything yield to his one aim? Is not our aim the symmetrical development of the child? Are we not responsible? It is the age of specialists, but it is also the age of specialists who have for a sure foundation a general education.

"READING AS A BASIS OF UNIFICATION."

SUPT. J. W. SMITH, BAY CITY.

The prime object which every course of study has in view is the development of intellectual power; it is to put the child in full possession of his faculties so that, at any given moment, the whole vigor of the personality can be exerted in a given direction to the attainment of a given result. This way of looking upon the mind as a unit to be guided as a whole in any direction the individual wills, is one of the most fruitful discoveries of psychology. Bearing this principle in mind, the teacher will no longer gauge her success by the glib recitation of her pupils and their ability to perform well a few set exercises; these essentials will be robbed of none of their true significance, but they will be looked upon only as presumptive

evidence of that true success which consists of an increased power to do more independent work.

It is not probable that any one will dispute the correctness of this reasoning. Every one will admit that unity of aim is essential to every course of study, and that this unit is the development of intellectual power. But this is not the only essential. A certain amount of knowledge must be acquired; and, moreover, it must be acquired as rapidly as possible. Public sentiment and private necessity alike demand that the child shall have something to show for the time spent in the school room. A school in which eighty per cent of the pupils in the fourth grade could, under the most favorable conditions, write nothing but a miserable scrawl, ought not to be tolerated in any community. The "three R's" still constitute, and for a long time to come are likely to constitute, the foundation upon which every course of study must be built. The question which we are discussing is not how we can eliminate any one of them; but the rather how we can reduce the claims of each to just proportions and treat the three, and all the other subjects we may introduce, not as independent wholes, but as related parts revolving around some one of them as a common center.

One of the very first duties, I might say the very first, of the teacher upon assuming control of a school is to take a mental inventory of each pupil. First, his power of perception should be tested, and if he does not perceive as accurately in one direction as in another, here is an obstacle to overcome. Then you might turn your attention to the memory. How many repetitions are necessary before the words of the memory gem can be recalled automatically at any time. If at first fifteen repetitions are a necessity, you have gained somewhat when the number can be reduced to twelve or even to fourteen. How long can he hold his attention fixed upon the task before him? If for only five minutes, strive to make it six. How simple must the problem be in order that his unaided reason can detect the true relations between the conditions involved? If two conditions can be combined readily, add the third and watch the result.

Nearly three centuries ago Lord Bacon, in his famous essay on "Studies", laid down the proposition that "Every defect of the mind may have a special receipt." And as if to emphasize this, he further declares that "There is no stand or impediment in the wit but may be wrought out by fit studies." "Like as diseases of the body may have appropriate exercises, so, if a man's wit be wandering, let him study the mathematics; if his wit be not apt to distinguish or find difference, let him study the school men. Histories make men wise; poets, witty; the mathematics, subtile; natural philosopy, deep; logic and rhetoric, able to contend." There is no one, so far as I know, who wishes to deny the truth of this doctrine, but the advocates of "unification" must add a new contention, and affirm that, if the method of teaching be correct, almost any subject may furnish appropriate nourishment, not only for one, but for all the powers of the mind. It is for me to show that reading may be one of these subjects, and is, perhaps, the most appropriate one in the primary grades.

All reading, whether in the primary grades or elsewhere, is done with one of two objects in view, either to get knowledge or to give it. If the former be the object, the reading is usually of the silent character; if the latter, then the voice is used. Teachers, as a rule, are apt to magnify the importance of reading aloud and largely lose sight of the value to be derived from being a good silent reader. And yet the latter is really the more important; the former, indeed, deriving its chief value from the fact

that it is evidence, more or less conclusive, that the child has actuall grasped the thought contained in the sentence. It is a sign for the thin signified. How can the teacher be absolutely certain that the child com prehends the thought? Certainly not because he may read with prope expression, for this can be secured by merely requiring the pupil to imitat the teacher's voice. The sign in this case signifies nothing, except tha the pupil is a good mimic.

In order that a person may read readily, rapidly, and understandingly he must not only be able to pronounce the words, but he must previousl have known something about the subject. This is upon the principle o apperception. In the case of an adult the foundation to which the nev particles adhere has been derived from various sources and, for the mos part, unconsciously. By long practice the mind has acquired the powe of assimilating the new increments and the action is automatic. In th case of the child, the foundation must be carefully prepared by th teacher; and, as the mind has not as yet acquired to any considerabl degree the power of automatic assimilation, the teacher must here als lend the needed assistance. If this view be a correct one, a little reflec tion will, I think, convince you that nearly all the instruction in the pri mary grades may be directed towards the forming of a basis for th reading exercise. If this be done, then the mere act of reading is but test of how well the teacher has done her preliminary work.

In order to carry out any plan of this character, we must carefully not that we are to read by topics and not by books. Ordinarily when w speak of giving a reading lesson, instantly there is present to the min the image of a class with books in their hands, each book bearing a label this label being "First Reader" or "Second Reader," as the case may be We must correct this tendency of our minds, for the school reader is no the only means at our command for giving a reading lesson. Convenien as this "reader" undoubtedly is in the equipment of the primary school it is, nevertheless, only one of the convenient tools, and not an indispen sable one even at that. It derives its value, not from the label, but from it contents; and subject matter equally serviceable may be derived from othe books or may even be invented by the teacher. The topic which th teacher is to develop is the important thing, and the place where found i of no importance whatever.

All the subjects embraced in the ordinary course of study may, so fa as they apply to the primary grades, be roughly classified under four group as follows: language, information, arithmetic, and art and exercise Under the head of "language" would be found language exercises, spelling and oral reading; under "information," history, geography, and elemen tary science; and under "art and exercise," drawing, penmanship, an music. The proportion of time which any group would receive in an time-schedule would depend upon the relative educational value whic might be assigned to it; and upon this, differences of opinion would exist

It will not be difficult to look upon the language exercise, the spelling and the reading lesson proper as constituent parts of a single unit. Con sciously or unconsciously, but for the most part unconsciously, this pla has of late years been followed in the first and second grades, the point o departure being where text-books in language and arithmetic have bee formally introduced. The information lesson has not, I apprehend, gen erally been considered as having any connection with the reading lesson If the teacher would conduct her work upon the principle of unification

using reading as a basis, she must accustom herself to regard the information and language lessons as indispensable prerequisites to all intelligent reading in primary classes. This will not be difficult, if we always bear in mind that we read by topics. We must banish the thought that we are to read a specified number of pages the first term, an additional number the second term, and finish the book the third term; but we must select from all the books at our command such topics as in our judgment are best adapted to the capacities of the pupils, being careful to classify all related topics together.

As in the first and second grades the reader is the only text-book in general use, it would be of great advantage if the writers had made this classification for us; but this is not the case, so far as I am aware, except in one series of readers. If you will take the trouble to examine the Normal First Reader you will find that, of its hundred pages, forty are devoted to "Word Pictures," thirty-five to "Plants," twenty-one to "Animals," and the remainder to "Form and Place." At this point the regular numbers of this series depart from this simple and excellent arrangement and follow the beaten path. The plan is, however, well developed in the alternate numbers of the same series.

But if the readers in general use have not made this classification, they at least contain much material by means of which you can do this work for yourselves. Upon examination you will find scattered through any school reader from two to half a dozen or more lessons upon a given topic, all of which can be brought into the unit relation. As these lessons were not designed to be presented consecutively, you will, in some cases, find difficulty in passing from one lesson to another in the number and character of the new words to be encountered. This obstacle can best be overcome by interpolation of lessons taken from other books; but where this is impracticable, you must simply spend more time in development work. Having selected your topic, your initial step in the development is the information lesson, making use of the actual object, if the topic admits of this. This is the observation lesson in which the training of the perceptive faculty receives special attention. In this exercise you should take care to emphasize the new words of the lesson, writing them upon the black board as you develop their meaning. The second step is to require the child to use these new words in several sentences of his own construction, first orally and then in the written form. Here the representative and conceptive faculties will be called into activity. This is the language exercise. You should now call the child's attention to the forms of the word, requiring them to be accurately pronounced and copied, thus testing the accuracy of his mental image, both by oral and written repetition. This is the spelling lesson. Having now by these successive steps made the child familiar with the substance of the new lesson, and with the form and meaning of the new words, the book is for the first time put into his hands; and, if the preliminary work has been well done, the teacher is free to assist the child to assimilate the thoughts left undeveloped, and to give fitting expression to the whole passage. This is the reading lesson proper. We must not fall into the error of supposing that these several steps must necessarily occupy different periods in the program. In most cases this is advisable; but they may all be given in one period, the important thing being for the teacher to keep clearly in mind just what she is seeking to accomplish.

We may consider arithmetic, drawing, music, and penmanship as special information topics. Undoubtedly there is an element in each which will

not admit of the treatment herein described, but this remark certainly does not apply to that portion of primary number work which deals with concrete objects. Many of the reading lessons in the ordinary reader, especially those upon plants and form, are well adapted to this purpose. Others are not, and you must seek for your material elsewhere, and possibly be obliged to rely upon your own invention. Indeed, this special topic has one advantage not to be overlooked, for the child's ability to make the required combination is an added and an infallible test of his comprehension of the language of the text. When we find it necessary to take up the text book in arithmetic, which is generally about the third grade, we shall find here little assistance in carrying out the plan of unification. This arises from the utter absence of connection between the problems, except that based purely on number. It does not appear ever to have occurred to our arithmetic writers that there could be any relation whatever between written problems and a reading lesson.

I have thus presented the theory of unification as I understand it, and have attempted to set forth, briefly, the way it is carried into effect in the schools under my charge. Perhaps in all cases the details are not so fully worked out as here indicated, but this is our plan. Before closing it might be well to point out some of the difficulties we have encountered. The first danger arises from over-development, the consequence of which is to rob the child of that mental strength to be gained only by the personal mastery of difficulties. Akin to this is the development of topics already familiar. Much of the ordinary object teaching is useless for this reason, resulting in inattention and disgust on the part of the pupil. This is well illustrated in the case of "Dodd Weaver." The second danger is underdevelopment. We should remember that the function of the brain is to digest mental food, and even the keenest intellect cannot do this unless the food has been properly prepared. Finally, do not attempt to bring everything in the course of study under the unit relation. The reaper, as it rolls over the harvest field, binds into sheaves nearly all the golden grain, and the rest is gathered by another tool. Possibly the construction of the reaper could be so refined upon as to make it pick up every head, but the gain in thoroughness would very likely be at the expense of simplicity. So it is with unification. It is a comprehensive principle, which, intelligently applied, can be made greatly to simplify and accelerate 80 per cent of the work in the primary grades; but as to the remaining 20 per cent, take some other method.

"HISTORY AS A BASIS OF UNIFICATION."

MISS GRACE GOODRICH, DETROIT.

History in the primary schools of Detroit is studied through a series of language stories showing the gradual growth of the race from a simple to a more complex mode of life.

Among the higher purposes of the story work in the school room is the cultivation in the children of a taste for good reading. That this purpose is approximately accomplished is evident to any teacher who has undertaken the work; and not only is the child's own thought influenced by the richer material used in the primary work, but through his enthusiasm the parents are awakening to a real interest in the school life of their little

ones. But there is a nobler purpose still in this work. It lays the foundation in the child for a broad humanity by bringing him into vital, loving relation to individuals so like himself in all essentials, so different from himself in externals.

In order to see the relation which any one part of the work bears to the whole, a brief outline of the series may be helpful.

Agoonack, the little Esquimau girl, taken from Jane Andrews' "Seven Little Sisters," typical of the early cave dwellers, is the first in the series. The nomadic life is then studied, taking the North American Indian as a type and basing the story upon Longfellow's poem of Hiawatha. The stories which follow these two are taken from Jane Andrews' "Ten Little Boys" in the order given by the author.

It is not the purpose of this paper to dwell upon the advantages of greater unity in our work, but to give in as helpful a manner as suggested itself to me some of the practical work based upon the theory of unification, using as a basis the story of Hiawatha.

Not only because it is of perennial interest to children, but because it appeals to the child-like in the teacher, is this poem of Longfellow's most wholesome material for our purpose. Child and teacher revel with equal freedom and delight in a world of nature and happy fancy. The story of Hiawatha is like the truest kind of fairy tale, in which truth appears in the winsome garments of fancy and whose lovely voice is heard in the music of the pine trees and in the lapping of the water. The study of such a nature poem as Hiawatha, assisted by the science work necessary to its better understanding, will do much to bring the child into that close contact with nature which is the special gift of the poet; and, if the child catch not glimpses of the lovely face of truth in all the wonderful phenomena of nature, he yet may lay hold of her vanishing garments and be saved from the utter dreariness of the common-place. The language story taken from the childhood of Hiawatha, together with the work in expression, reading, and number, is adapted to pupils of the first and second grades. The pupils of the first grade should reproduce the story in oral language; the second grade pupils should use both oral and written expression.

Hiawatha was a little Indian boy. He lived with his grandmother, the wrinkled old Nokomis, in a wigwam. Back of the wigwam rose a gloomy pine forest; in front of the wigwam beat the waters of a clear and sunny lake. Nokomis rocked Hiawatha in his linden cradle which was bedded with soft moss. She also sang to him and taught him many things about the stars. Iagoo, the friend of old Nokomis, made a bow and arrow for Hiawatha and said, "Go into the forest and kill for us a deer." Hiawatha went into the forest all alone. The birds flew round him singing, "Do not shoot us, Hiawatha!" A little squirrel ran up a tree and, laughing, said, "Do not shoot me, Hiawatha!" A rabbit leaped from his path and said, "Do not shoot me, Hiawatha!" The little hunter did not hear them for he was thinking about the red deer. He saw some tracks leading to the ford across the river. He hid behind some alder bushes and waited for the deer. Soon a deer came down the pathway; then, rising on one knee, Hiawatha shot an arrow and the deer lay dead. Nokomis and Iagoo watched for the return of Hiawatha and, when they saw him dragging the deer home, they praised him, calling him "Little Strong Heart." Out of the deer's skin Nokomis made a cloak for Hiawatha, and out of its flesh she made a great feast in his honor.

The reading or, better, the telling of some such story as this, should be

preceded by such preparatory work on the appearance and customs of the North American Indian as will bring the child's mind into ready understanding of and sympathy with the thought of the text.

Many of the most beautiful portions of the childhood of Hiawatha have been omitted in this story. These should be introduced as opportunity occurs, each review adding its growth to the original.

The many beautiful Indian legends; the Indian child's happy relations to the birds, his chickens, and to the beasts; his brothers, the red deer, and the cloak made of its skin; the magic moccasins and mittens, and the beautiful birch bark canoe, are the bases of conversational lessons, of which lessons in expression, reading, and number are the natural outgrowth.

Among the other parts of Longfellow's poem, which even the very young children study with interest, are "The Sailing," where the canoe is especially studied, and "Friends," which teaches some beautiful moral lessons.

The lullaby which Nokomis sings to Hiawatha, as she rocks him in his linden cradle, and the fire-fly song which Hiawatha sings, have been set to music simple enough for first grade children. They may be found in a small book called "Stories in Song," told by Elizabeth Emerson and Kate L. Brown.

In studying the wigwam, the teacher by questions and a free use of pictures, board illustrations serving the purpose very well, helps the children to a correct conception of its form, cone shape, its material, size, and structure. Attention should be drawn to the cone-shaped pine trees back of the wigwam and to the cones upon some of these trees.

For a lesson in clay following the lesson on the wigwam, the cone is modeled from the object. In succeeding lessons the wigwam, based on the cone form, and the natural cone from the fir tree may be modeled.

One of the older boys can make a bow and arrow which should be carefully compared with the description of the one made by Iagoo. The children should tell why Iagoo made the bow of ash and the arrow of oak; why he tipped the arrows with flint and winged them with feathers. The bow and arrow should first be drawn from the object, afterwards from memory, and used in the illustrated number work and written language work.

For the study of the canoe a small, well-constructed model is easily procured. The children make accurate measurements of its length and width in order to get the correct proportion. The teacher leads the children to see the dependence of the canoe for its beauty and swiftness upon its nice proportions, letting them tell the effect of making it broader in proportion. Which would upset the more readily, the broader or the narrower craft? With pieces of birch bark, needles and thread, the children make tiny canoes which, together with other material representations, may be used as objects for number lessons.

The story of Hiawatha, reaching out as it does in so many directions and touching so many objects of interest to the child, furnishes abundant material for number problems. These problems may bring in some fact taught at the language period, as the following:

In a village are 9 wigwams made of deer skin and 4 of bear skin, how many wigwams in all? The canoe measured was four feet long and one foot wide, what is the proportion? Draw an oblong of the same proportion.

They may also be based upon the structure and habits of the animals

mentioned in the poem: A squirrel has 4 toes on each of its fore paws and 5 toes on each of its hind paws, how many toes has the squirrel? If a deer has 6 branches on each antler, how many branches have both antlers? How old is the deer? An owl caught 4 mice one night and 5 mice the next night, how many mice did it catch in the two nights?

They may be suggested by the thought of the story, but based largely upon supposition: Hiawatha saw the Great Dipper. He counted the stars in the handle and those in the cup. How many stars did he count? Hiawatha went into the forest. He saw 5 of his brothers gathering nuts and 7 of them building a dam. How many brothers did he see? He saw 12 of his chickens wearing red vests and $\frac{1}{4}$ as many wearing red bonnets. How many woodpeckers did he see?

The thought of the reading lesson has been largely developed at the language period, the sentences used being frequently the children's own expressions brought out by the conversational language lesson. If there is a reading course independent of this reading work and supplementary to the language lesson, the new words introduced may be given as sight words, the children not being held responsible for their spelling. If the interest in the lesson is good and the children have had careful work in phonics, they will recognize readily almost any word in their oral vocabulary. The reading lesson which follows is an attempt to give the thought of a portion of the poem in language sufficiently simple for very young children to read.

The teacher sketches on the board a picture of the wigwam with the pine trees behind it and the water in front. The class watching intently, the teacher writes on the board, "Do you see this wigwam? Hiawatha and old Nokomis live here. The sun is setting behind those pine trees. Soon it will be dusk. Then Hiawatha will sit at the door of his wigwam. There he is now. He is listening to the wind in the pine trees. It is telling him something. What does the wind say, Hiawatha? Do you hear the water lapping against the shore? Now it is quite dark. Hiawatha sees a light. Now it has gone. No, there it is again! Nokomis, come and see the firefly. It has a little candle. Hiawatha says, 'Light me to bed, little firefly.' Good night, Hiawatha."

The following simple dramatic representations which the children delight to engage in, are given in the hope of brightening the dull hours of some rainy day.

Two children, by touching hands overhead, form a wigwam. One child taking the part of Hiawatha, sits in the doorway. Another child represents the firefly and flits around the wigwam while Hiawatha sings the firefly song:

"Wah-wah-taysee, little firefly,
Little flitting white fire insect,
Little dancing white fire creature,
Light me with your little candle
Ere upon my bed I lay me,
Ere in sleep I close my eyelids."

A boy representing Iagoo, takes a bow and a very blunt arrow and giving them to Hiawatha, tells him in the words of the poem to go into the forest and kill a deer. Children representing the birds, the squirrel, and the rabbit, fly or run about the room saying as the little hunter passes each, "Do not shoot me Hiawatha." But Hiawatha is watching the deer, who seems hugely to enjoy the prospect of being shot and, when the arrow

touches his boot, gives one leap into the air and falls motionless. He is dragged home in triumph. Iagoo and Nokomis praise him and the latter promises to give a feast in his honor.

Do the children enjoy this work? The answer is written on their happy faces. Nor is it only to the children of cultured parents that this work appeals. The teacher's work lies with those many little ones who have been so successfully cradled in the arms of the common-place that not one fitful dream from this great world of beauty ever causes the drowsy Psyche the feeblest fluttering of its wings.

"LITERATURE AS A BASIS OF UNIFICATION."

MISS ROSE BARLOW, DETROIT.

True it is that every thought finds its expressson, every fancy its song, every historical epoch its literature. In the writings of a nation are mirrored the life and history of its people. Given the literature, to find the history would not be so difficult a problem after all.

A cry has arisen in the educational circles of our country, "Down with the curriculum!" But now our virtue will be put to the test, for we must needs be patient. Nothing, however, will be gained by our watching and waiting for a radical change, but much depends upon the manner in which we familiarize ourselves with the thought of concentration and its gradual influence on the material we have now on hand. Not change, but transition, is that which we desire. Slowly, gradually, intelligently, should we approach, then will the fruit be ripe. Nay, then shall we be in a condition to receive it; it has not been thrust upon us like an unwelcome guest, but we have gone forth to meet it.

And now comes literature to our aid and it is our purpose to use it as a central study; to show its relations to the present curriculum. The field is large, the products are rich and abundant, and surely America has contributed her full share to the liberal store. The best is not too good for our children, say those who have been giving their best thought to this work; and so our little ones have been free to roam in the woods, among the flowers, beside the brooks, with the birds; to watch nature in the snowdrifts, on the mountain, among the clouds, and even upon the great ocean. Longfellow, Bryant, Lowell, Whittier, Lucy Larcom and the Carey sisters, have become household words; and our poets have become dear, dear as they would wish to be, to the hearts of our children.

What shall we select for consideration from our wealth of material, is the question. But see, the kindly, genial face of our fireside poet beams upon us and he smiles and whispers "Come." His Miles Standish,—have we not all to some degree made a study of this poem in our primary grades? Let us take this piece of literature as a center for unified work, a basis for concentration.

We are aware that the poem alone has little or no significance to the reader who looks not before, after, and around; and so, without a doubt, we grant that its proper position is in the center with the branches of study growing from it.

History, the great thought giving study, is at once suggested. What an important period in the growth of our country is depicted. Our children, acquainted to sone degree with Columbus and his time, can easily

be led across the ocean to England in the early part of the seventeenth century, for they wish to know the Pilgrims in their first home. "Why did they leave their country?" the child will ask. Then he must be told about the Puritans; that they differed in their views from the church of England and preferred to worship God in a way of their own; how they were ridiculed, punished, persecuted, and that they finally sought refuge in Holland. Here they encountered new people, new conditions. The thriftiness, intelligence, and endurance of the Dutch surely had a good effect upon the character of the Pilgrims. Are not events well ordered? Here, too, they met the brave Miles Standish.

"Short of stature he was, but strongly built and athletic,
Broad in the shoulders, deep-chested, with muscles and sinews of iron;
Brown as a nut was his face, but his russet beard was already
Flaked with patches of snow, as hedges sometimes in November."

The Pilgrim character is best brought out in their struggles and in their work. The children enjoy hearing of the voyage, the landing, the building of huts. They wish to be led into the "simple and primitive dwelling;" to see the mother spinning; to watch the obedient, respectful child and to follow him into the little garden in the rear of the house, or to the three great wooden gates in front.

"Meanwhile Alden at home had built him a new habitation,
Solid, substantial, of timber, rough hewn from the firs of the forest.
Wooden-barred was the door and the roof was covered with rushes;
Latticed the windows were, and the window-panes were of paper,
Oiled to admit the light, while wind and rain were excluded.
There, too, he dug a well and around it planted an orchard;
Still may be seen to this day some trace of the well and the orchard.
Close to the house was the stall where, safe and secure from annoyance,
Raghorn, the snow-white bull that had fallen to Alden's allotment
In the division of cattle, might ruminate in the night-time
O'er the pastures he cropped, made fragrant by sweet pennyroyal."

John Alden the man, Priscilla the maiden, Miles Standish the soldier, —each character has been well drawn in the poem and the pupil is enabled to think himself back "In the old colony days, in Plymouth, the land of the Pilgrims."

A hero indeed, to the boy of ten, is Miles Standish as he goes forth "to quell the sudden revolt of the savage." Have we not seen the boys at their play imitate the brave little man as he

"Put on his corselet of steel and all the rest of his armor,
Buckle about his waist this trusty blade of Damascus,
Take from the corner his musket and so stride out of the chamber."

As far as the poem is concerned the child witnesses the petty battles between the Pilgrims and the Indians, but these he should be told were but flecks on the horizon; for did not the English and the natives become firm friends? The former were kind to their friends of the forest, who in turn rendered many a timely service to the white man. The savage was gentle; the English noble would have suffered in comparison with him. The governors of the colony dealt wisely and justly with the Indians as did William Penn years later. There was little or no force, still the savage has disappeared and the child will realize it has been for the best; but he should always be encouraged in his admiration for the simplicity, the spontaneity, the poetry in the character of the American Indian.

Just in this way our great, vast country had its small beginning. The

Pilgrims came almost empty handed and began upon the lowest round in a bleak, stormy settlement: still they were men, with the hopes and ambitions of men; each had his function to perform, each his interests, which have crystallized themselves into the noble institutions of the present time. So it was with those in the mother country over the sea; so it is today. That great truth preaches the brotherhood of man. The history as suggested in the poem by no means ends here, but each teacher, considering the age and inclination of her pupils, acts accordingly.

Having discussed the actors of our historical drama, let us turn our attention to their environment; and here it is that geography and nature-studies are presented to us, not in the cold dead form of the printed page, but in living, breathing nature.

Our children feel that they, too, are in England; they are interested in the country, the soil, the climate, the people, the government. As far as practical we make a study of Holland and note with interest the physical conditions of that country; the industry, the courage, and the endurance of its people.

The great deep ocean, its tides, its living creatures, the modes of travel, the facilities which we today enjoy in that line are here suggested. And thus we see how the material accumulates, not in nicely assorted, well-defined, and neatly enclosed packages, but rather as clinging, depending parts of one harmonious whole.

Proceeding, we find that the landing of the Pilgrims and their settlement in our own country (our *own* country, for the child is delightfully appreciative now), abounds in a perfect richness of possibilities. Here, too, devoid of its old-time tediousness, can be presented the forms of land and water; the ocean, the bay, the cape, the peninsula, the continent. Surely do we not all agree that for the child to have a knowledge of Cape Cod Bay means more than for him to have the ability to sing forth Baffins Bay, Hudson Bay, Gulf of St. Lawrence, and so on, and know less than nothing of his subject? Give us but the child who knows nothing, and with many a hearty "thank you" will we respond. We will set nothingness upon a pedestal and give it the place of honor in our school rooms.

To return, the New England winter, the winds, the forests, the mist, the clouds, the animal and vegetable life, all have their place.

> "Long at the window he stood and wistfully gazed on the landscape,
> Washed with a cold, gray mist, the vapory breath of the east wind;
> Forest and meadow and hill and the steel blue rim of the ocean,
> Lying silent and sad in the afternoon shadows and sunshine."

While yet the ground was covered with snow, appeared that dainty, fragrant blossom, the trailing arbutus, a gleam of hope to the heart of the weary pilgrim. Spring time at last! We all have our notions of spring and probably deem sacred our manner of approaching nature with the little ones.

Certainly, it is far from our purpose to conclude one branch of study, cut it off and proceed to another, for we are averse even to the suggestion of studies; and in considering reading and language, we regard them as the natural outgrowth of the central thought. They stand in close relation to each other. The story forms ample material for training in oral language. It would indeed be difficult to enumerate the benefits derived by the child, they are so manifold. As a test of the child's comprehension of the facts and their relation, what is more convincing than his ability to

express his thoughts in writing, in the composition? For him to be capable of telling or writing in an intelligible way the story of the Pilgrims, shows strides in the advancement of true learning. To think that an eight-year-old child is able to perfom with ease that task which formerly ranked as a burden to the life of the school boy twice his age.

Have you ever in your dreams visited fairy land? If from the right and left of you there stretched alluring beauty; if there beckoned all the mysteries of light, all the triumphs of art, the majestic simplicity of nature, and yet more, the thought underlying all, would you not be sorely tempted to wander from your path? And so I fancy, most of us, if compelled to remain within the limits of a meaningless reading course, are tempted and are anxious to wander forth into the sweet refreshing fields of true literature. A divine discontent that, but there is cause for congratulation. More books are being rapidly introduced for supplementary reading, and still we are not satisfied; for, although many of our readers contain good reading matter, there is such a diversity of subjects, and such an ignoring of proper arrangement, that to place them in the hands of a child is actually harmful. Miss Todd and Supt. W. B. Powell, authors of the Normal Course in reading, have realized our need; and, as a result, our schools enjoy well-chosen subjects arranged in a sequential order.

But we must have a reading book growing from our central thought, Miles Standish. That is all very well, but where shall we find such a work? Teachers, it is our privilege to make our own books. I am proud to say that the Normal Training School of Detroit has experimented in this direction and with wonderful success.

We must originate, we must adapt, we must classify. There is one great difficulty, the richness and fullness of literature, for there is no limit; so it is wise to "weigh and consider" and, as Hamlet says, "to use all gently."

First we have our poem and the life of Longfellow to read. We know from experience that children, even as early as in the second school year, (and certainly in the third) take pride in keeping literary note-books; in copying therein a blackboard lesson on the life of the poet; in sending for catalogues to secure his picture; in making drawings, searching for clippings, quotations, etc.

And now to consider coördinate reading. We are dealing with the Puritans in England; of course you will suggest John Milton as the shining central figure of Puritanism. It matters not how little we do in this line, as long as that little be well done; a few interesting facts concerning his life and work will suffice, and there certainly are many gems of thought, to the level of which the child can be guided.

There is more, to be sure, suggested by the life in England; but we can not enter into details. As to Holland, many a pretty story can be found; that of the little Hero of Haarlem has been known to be very effective. Would not the Siege of Leyden illustrate important traits of the Dutch character?

As for the story of the Pilgrims, many delightful histories have been written for children; these will serve well as reading lessons, quite as well as "Mary took her doll for a walk," and so on.

The Indians! Here we are not at a loss. Every childish eye gleams with perfect happiness at the prospect of spending a few days with the beloved Hiawatha.

Think of the store of patriotic poems we may utilize! We continually

keep our country before the minds of our children; it is like a golden thread upon which these gems are strung.

"Month after month passed away, and in autumn the ship of the merchants
Came with kindred and friends, with cattle and corn for the Pilgrims.
All in the village was peace; the men were intent on their labors,
Busy with breaking the glebe and mowing the grass in the meadows,
Searching the sea for its fish, and hunting the deer in the forest.
All in the village was peace."

Here and there in the poem we know appear these dainty dashes of nature which the child enjoys committing to memory. The rhythm is especially attractive to the child; he feels in it the heroic.

You will pardon this personal reference. One of my boys, a bright-eyed little fellow of eight years of whom none would suspect aught but fun, remarked to me: "When I am running home alone at night I always think of this poem and say the words to myself; not the words of the poem, but my own words." A pretty thought crudely expressed. We know he meant that he thought in the measure of the poem.

Longfellow alone could supply our poems of nature, most of which the child can understand and appreciate.

"And Nature, the old Nurse, took
The child upon her knee,
Saying, 'Here is a story book
Thy Father has written for thee.'"

What child is not familiar with

"Come to me, O ye children!
And whisper in my ear
What the birds and the winds are singing,
In your sunny atmosphere."

From Bryant there is a perfect world of beauty, to say nothing of Alice Carey and Lucy Larcom; here, too, is an excellent opportunity to acquaint the child with a few selections from Thomson's Seasons. Right in connection with the planting of the corn, we could supplement this beautiful passage from his Spring:

"Be gracious, Heaven, for now laborious man
Has done his part. Ye fostering breezes blow;
Ye softening dews, ye tender showers descend;
And temper all, thou world-reviving sun,
Into the perfect year."

So we might continue, the illustrations multiplying on every hand, and we have our Pilgrim reader, with its literature, its history, its patriotic selections, its nature studies, with anything and everything we may consider proceeding naturally from the central thought.

Music, traveling hand in hand with literature, can be made to contribute to the cause. Religious songs, songs of the sea, nature songs, patriotic songs, occupation songs, hunting songs, can be sung by the children, who, when they comprehend the relation of the music to their thought, are keenly appreciative.

Here, also, an opportunity of giving good music to the children presents itself. For instance, many of the beautiful poems can be sung to airs taken from famous compositions; as from Schubert's Serenade, Wagner's Tannhauser, or his Spinning Song (how appropriate for our Priscilla), his Preis Lied, or his Lohengrin. "Come to me, O ye children" can be sung

to a very pretty air from Mendelssohn. Children are easily influenced; they are willing to admire, if you only show them the way. It is interesting and very gratifying to observe their appreciation of the beautiful. They display the greatest fondness for Schumann through his Tramerei; for Chopin through snatches of his Berceuse and Fantasie Impromptu; they even love the forbidding face of Beethoven. Any teacher, even though she possess not a particle of musical ability, can do this work. All she needs do is to hear good music, retain what melodies she can, and she will find the task delightful and the reward great indeed.

Strange, we have spoken of history, geography, nature, language, literature, music, and has arithmetic been overlooked? Ah, no, but he is no longer the reigning monarch, the arbitrary king of the school room; he is far more gracious, more compromising; he realizes that others have rights which are to be respected. Number is but the formal side of our study, of which history and geography are thought-giving. There are many, who on account of this fact feel justified in behaving just the least bit coldly toward arithmetic, and consequently push that study off into a corner. That is not right,—it has its place and must be given all that it deserves. It is usually the bugbear of most children's lives, and we do not wonder; for has it not been disconnected, isolated from all else? How often, though unconsciously, do little children teach!

Here is our central thought, and how excellently it will form a basis for our number work. We think in numbers; by what are space, force, size, distance, volume, time, value, measure estimated but by numbers? Surely by this time we should have penetrated sufficiently into the mysteries of balls, marbles, apples, sugar, and the like. How thankful are we that their importance is a thing of the past. Take our Pilgrims. Will not the subject furnish us with many useful, thoughtful problems? Think of the calculations that can be made with England and Holland! Then the width and depth of the ocean, the Mayflower and its parts, the time consumed by the voyage, the number of Pilgrims, the peninsula of Cape Cod as compared to the peninsula of our own state, the occupations, the Indians, the woods,—why, we might continue indefinitely. Could we not make a book, too, on this subject, if we so willed?

We know that at first Nature, rough and wild, appeared to defy the Pilgrims. It had to be conquered to make habitation possible. It was conquered and was made to serve. What accomplished this result? Force, we say. By what can we judge of force? By numbers. So it seems in the life of the Pilgrims, numbers have a moral content.

Modeling and drawing, though formal, occupy an important position. It is through them that the thought finds expression. For all time geometric forms and figures should be studied; parallel with this study, a great deal of pretty as well as instructive work can be done The clay spheres may be converted into Indian beads or into the fruits gathered for the first Thanksgiving; the cylinders into the masts of the Mayflower, the tall hats of the Pilgrims, the animals, the ears of corn; the cube into the huts of the people.

Some of our boys may have an inclination to carve; they might exercise their ingenuity on bows, arrows, and other weapons; they might venture to attempt the Mayflower and the home of the settlers.

After these objects have been modeled and perhaps carved, they may be drawn. Very many objects, such as the sword and shield of Miles Standish, the spinning wheel of Priscilla, the wigwams of the Indians, may

serve this purpose. Let the children understand to what all this work tends—many a child questions the use of drawing. Let him see what has been accomplished. Give him the opportunity of seeing great works of art. Books containing these works can be procured; also photographs and copies of pictures and statuary may be obtained at prices which put them within the reach of all teachers. Rubens, Van Dyke, and Murillo might be given especial attention; still we need not be limited to the age in which the artist lived. Munkacsy's beautiful picture "Milton Dictating to his Daughters," would be very appropriate and certainly enjoyable. In this work let us remember to do all in our power to surround the child by the good, the true, and the beautiful.

We have considered a piece of literature as a central thought, as a basis of unification. Let us for a moment observe the effect of this unity upon the child. We grant that the forces of the mind converging to one point have strengthened the thought. His thought is a living one—one that has power to move and must continually move the feelings and the desires. This leads to action and thus a character grows.

To strengthen the will is our object; to have the will act in accordance with the feelings. Ah, but these feelings, we must influence them!

"In numbers there is strength," it is said; true, but in union of numbers.

Naturally we enjoy consistency. And does not an exception to a pet theory irritate us? Concentration, unity, harmony! When a child,—nay, when a man, begins to know, to know truly what oneness is, then does he begin to understand the plan of the universe. And so we have our duty before us. A great work; an attempt to aid in making the child one,—one in knowledge, in feelings, in actions, in character.

To be truly one is to be holy, to be nearer the divine.

"NATURE STUDY AS A BASIS OF UNIFICATION."

H. ANTOINETTE LATHROP, GRAND RAPIDS.

In our recent visit to the World's Fair,—the grandest object lesson the world has ever seen—there was nothing that impressed itself more forcibly upon us than our inability and the inability of our friends to tell what they saw. This failure can plainly be attributed to but two causes:

1. The magnitude of the lesson.
2. Our lack of skill in describing what we see, or in other words, a lack in language development.

If all the visitors at that great exposition had been properly trained to express themselves fluently, grammatically, and accurately, on the incidents of everyday life, on the natural objects around them, on what they heard and read and saw, every one would have been better able to describe, and enjoy even, the grand lesson but recently ended.

This fact clearly shows that there is a need in our school curriculum that has not been met by its educators; that our public schools are weak at a vital point; that our pupils ought to be better prepared to enjoy what is around them; to be able to discern beauties where now they see wastes; to appreciate the blessings of every day life and to read from nature's book the lessons of the Great Master.

I feel certain that the most conservative of us are ready to grant that what we most need is not a more complicated school machinery, but a simpler one on a broader basis. The eyes should be trained to see, the

ears to hear, the hands to feel, and the tongue to express the thoughts that come to us through the hands, ears, and eyes—and this is language work.

We have then, first, language development as the fundamental element of education. Without the ability to express thought, education is weak. The child must be developed, educated by certain laws, to be strong. Its object is to awaken dormant powers, to arouse to action latent sensibilities, to promote growth by enabling him to give expression to thought and feeling.

To do this every true teacher will put herself back of the child and guide his hesitating, uncertain steps to knowledge and strength. If instructors could be persuaded to spend as much time in drawing out from the child systematic expressions of thought as they now do in pouring into his immature mind crude material he cannot use, our educational system would soon cease to walk on crutches and become a hale, hearty youth of vigorous proportions.

What is the object of education but growth and attainment of power? Are not its first requisites facility in oral and written expressions of thought, and grammatical construction? Do we not all preach development of ideas before words, and practice the opposite? Should not the logical order of instruction make synthesis come before analysis? How many of us can conscientiously say that our pupils think in sentences? Is it not a conundrum, upon which we lay the greater emphasis, the subject, or the love for it? Have we made this work so much our own that we have taught from the beginning the substance of the science without its terms? Yet all this work leads directly to science, literature, history, biography, and geography—the basis of our education—the vital element of educational life.

We must now lay aside theories and begin actual work with the child. We must take him on the same educational basis as a subject—the whole before its parts—remembering that the first work is but laying the foundation upon which other hands will rear the superstructure, and that this work is not complete unless it has comprehended all the fundamental principles of education that are to follow.

The broadest field for this work, and that having material within easy reach of country as well as city schools, is Frœbel's first three kindergarten gifts.

The first gives us the ball with its unity of child life, thought, and purpose. The second with its possibilities of comparison, introduces him to nature and life about him, while the third givee divisibility—separation of the whole into its parts.

When a child has been lead by successive and logical steps to this point, he is able to see accurately what is around him; to draw and make representations of form; to talk and write grammatical sentences; to read what he has written; to count what he has studied; to describe little journeys; to relate incidents of school and home life—the child, in short, is being developed.

Hand in hand with this first work of the kindergarten, in a beautiful sisterhood, come lessons from nature-studies, beginning with objects and observations, and leading to sympathy with the life about him. This study should embrace all the elements of natural science, especially that of insect, reptile, bird, plant, and animal life, and the people, homes, and occupations of other countries. These lessons, with their comparison of objects, will prove a source of unfailing delight to the pupil.

In our own work this term we have taken classes out of doors to study the apple, maple, and oak trees. In the yard we have made in the sand, the forms of land and water. From the woods the pupils have brought plants, roots, and barks. They have observed the clouds from day to day, made notes on the weather and the changes of the seasons. Our animal studies have been from live objects; the ferret, cat, dog, squirrel, rabbit, pigeon, bantam hen, mud-turtle, hornet's nest, flies, and honey bees, while from the remote recesses of the basement came mice in a trap. Do the children like this work? Does a fish like water or a bird the air? Our pupils need closer sympathy with nature, a better understanding of the world around them, and to be able to enjoy most that which will yield them the greatest benefit.

Which has the greater charm for the child, a ramble in the woods after wild flowers or a lesson in cold black and white? A chase through the garden for a butterfly or a translation from Virgil? A hunt for birds' eggs in their airy homes or a problem from Olney? A romp with a pet animal or a page of statistics? A study of the Aurora Borealis or a list of diacritical marks? The comparison of peoples of different countries or the comparison of adjectives?

Allowing the child to lead us as stated in our first premises, where would his inclinations take us, to nature or books? To the fields and woods or to the dusty lore of centuries? From the boys and girls all over this beautiful State a prolonged shout goes up, "To the woods and fields, away, away!"

We now come to the basis of unification.

As we have already seen, the first work of the child should be the training of the perceptions and thought expressions, both oral and written. We should take the child as a whole, leading him by kindergarten principles from the synthetic to the analytic—from the whole to its parts. We should make primary work broad and comprehensive enough to embrace all the fundamental elements of the common school education. We should teach the love for a science with its enthusiastic interpretations, rather than its meaningless terms and never to be remembered definitions. We should simplify our methods and broaden our basis of instruction; teach more in harmony with the tendencies of the child, and conform less to that popular mechanism of a school life which robs a child of his richest inheritance—his individuality.

How are we to bring about this result? By stepping from the time-honored ruts of our predecessors, and going, at once into broad, beautiful fields of thought and action, taking our studies first hand from the Great Master, instead of second hand from a great publishing house.

Why, then, should Nature studies be made the basis of unification? Because we can get from this source every element of education; language, reading, arithmetic, geography, and later the more advanced work; because these create in the child an enthusiastic desire for knowledge nowhere else to be found; because of the wonderful sympathy of the child with every form of life; because of the intellectual stimulant arousing to action all the sensibilities, leading the child to discover truths for himself, and inspiring a desire to learn more from the same inexhaustible text book; because of the moral benefit to the learner, teaching kindness toward inferior creations, gentleness with the weaker, and a greater love for the true and beautiful; because of its possibilities for spiritual growth making a reverence for the Creator of all things a leading

thought, the study of his mysteries a religious sentiment, and love for his beneficence a perpetual thanksgiving.

We have now in the balance for nature studies, the spiritual growth, the moral benefit, the intellectual stimulant, the wonderful sympathy, and the logical development of the child.

Who can predict the benefits that may follow the introduction of this basis of unification? When the first lessons shall come from science; when instruction shall yield the highest happiness; when all the faculties shall be developed; when children shall read nature as understandingly as they now read a text book; when the moral growth shall equal the intellectual, and the spiritual gather strength from research? When? Not until we have left much of the present educational system far behind and widened into broader avenues of action; not until we can interpret the child as the grandest factor of the universe; not until we are willing to read the ethics of the great Master, and make his creations—nature-studies—the basis of our pedagogy and the unification of our work.

"NATURE STUDY AS A BASIS OF UNIFICATION."

MISS LOUISE MILLER, DIRECTOR OF PRIMARY WORK, SAGINAW, E. S.

"Nature never did betray the heart that loved her."

The universe seems like the expression of a mind, a book full of thought, "an enormous will bursting into life." The child's soul is a higher expression of the same mind; and, as in the seed the germ lies stored away in darkness until it shall be called forth by sun and shower into bud, blossom, and fruit, so the soul waits until the proper conditions are presented for its highest development. Each seed has within itself all the possibilities of growth, governed by certain laws. The laws governing the development of the child can best be learned by studying his early inclinations and activities.

The natural tendencies of the child indicate him to be an observing, investigating, experimenting individual. His mind is a perfect interrogation point. The questions, "What is that?", "What is it for?" are constantly on his lips; and the question arises, "Should the spontaneous activity of the child be an index to a course of study which is best adapted to his highest mental and moral growth, and can these studies be continued profitably through life?"

Much of our teaching is dead formalism; the child does not have concepts. Especially is this true of reading and geography. We teach him words and he gives us words in return, and we delude ourselves with the idea that it is the expression of thought. The return of spring with its re-animation of nature; the bursting of buds and the re-appearance of birds and insects; the autumn with its ripening fruits, distribution of seeds, preparation of animals and plants for the rigor of winter; the summer, the time of growth; the winter, the season of rest,—all form a cycle in the child's experience which will be a basis for that which is beyond his sense grasp.

In reading of the Esquimau, the child does not enter into the spirit of his environment unless he has experienced the severity of our winter, observed the scanty vegetation and the change in the covering of our animals for protection against the cold. There is no apperception. In the

study of climate, if he observes that water evaporates more rapidly in a warm place than a cool one, he would reason that there would be greater evaporation and consequenty greater condensation in a warm country than in a cold; and, as he observes that heat and moisture are two essential elements in plant life, he sees that vegetation would be very luxuriant in the torrid zone; as he sees that animal life depends largely upon vegetation, one would presage the other.

He observes the sun, moon, and stars; change of seasons; effect of water upon the soil; different forms of land and water; physical and chemical changes. Is there a subject in the curriculum of a college or university the elements of which the child does not unconsciously absorb before he begins his school life? Why should he close his eyes at five to open them again feebly at fifteen? Is it wise to eliminate this work from the child's experience and banish it from the primary and grammar grades? Can mineralogy, geology, zoölogy, botany, physics, chemistry, astronomy, geometry, and history be best taught in an isolated way in the high school, or can we gather up the slender threads of the child's observation, letting him see the relation that each bears to all and all to each, and begin the weaving of a beautiful fabric which will increase in strength and usefulness as years go by, having for its warp careful observation, clear thinking, correct expression, and for its woof the varied tints and shades of earth, air, and sky.

A child usually leads two distinct existences; one in the restraint of the school room and the other in the freedom of the open air. Let him see that his study and play are not divorced, but that there is a vital connection between them. A boy has acquired a knowledge of many things which he would gladly bring to school and share with others; but he is obliged to enjoy it alone, because there is no place for it in the school room. Would study or play be enhanced if nature were brought into the school room? There are marvels of order and beauty in creation of which we are perfectly unconscious, because our eyes have never been opened to them.

The object of the science work is to put the child in touch with the things around him, to let him feel that he is a part of the great unit of creation; a small wheel in the great machine of which God is the power; and upon the faithful discharge of his responsibility depends the harmony of the whole. It is invaluable as a moral influence; it brings the child to love the Divine through creation and lets the light of heaven into his soul.

There is a great deal of educational rubbish in the devices for teaching; the child has too many books to read; he has to take too many things on faith. Too often the thing to be observed is swallowed up in a multiplicity of symbols; and instead of going to nature for knowledge first hand he is made to accept the results of another's experience. He is told that wind is a current of air; but if he observes that heat expands air, he has that fact in his own experience and can understand what produces this current.

> "One good idea, but known to be thine own,
> Is better than a thousand gleaned from fields by others sown."

The child should *discover* science, not learn it; he should be brought face to face with reality; after he has the thought, give him the symbol for its appropriate expression. The mind is not a force which is self-suffic-

ing; it has need of constant nourishment and stimulus from without through incessant communication with nature. Too often we feed the child on dry husks, when nature's storehouse is replete with the choicest delicacies and most nourishing food.

If we believe with Comenius, "There is nothing in the understanding which has not before been in the senses," we shall realize the importance of cultivating the perceptive faculties. It is one thing to see, to hear, and to touch, and another to observe, to listen, and to feel. The education of the senses is the threshold to the development of the mind; it is the avenue through which the mind may perceive the tangible, visible properties of matter, and upon which the judgment and reasoning are based.

The whole body is an organ of touch and the energy acting through matter is differentiated, producing the different attributes which act upon consciousness developing the senses. Environment has resulted in the keen, piercing eye of the eagle, and the absence of eyes in the mole. All study should be to discover the law governing the direction of energy through matter; to discover the invisible; and all we know of externality is by judgment. Form and number are the two modes of judgment; they enter into all thinking. Form produces the concepts and number gives them exactness and definiteness. We may reason correctly; but if our judgments are not exact, we shall never arrive at correct conclusions.

Do the central subjects of study afford a sufficient means for the study of form? A more perfect example of a straight line cannot be found than in a sunbeam; the sun's disk is a circle; the oval and ellipse can be found in leaves; a turtle's egg is a sphere; many eggs are oval; modifications of these forms can be found in fruits, vegetables, and seed-pods; the stems of grasses and trunks of trees are cylinders; animal and plant life produce curved lines and curved surfaces. Angular forms may be found in the crystals of different substances; one face of an alum crystal is a triangle; of salt a square; a snowflake is a hexagon. The solids might be traced in the same way. The elements of form and geometry might be studied from a tree. Seen against the horizon it appears in a plane, the outline of which will be determined by the ratio between the horizontal and vertical diameters, the point of intersection, and angle of branching. In the pine the plane figure is a triangle, the solid a cone; in the poplar the plane figure is an ellipse, the solid an ellipsoid.

The great progress of the world is due to the application of number to things. Man is constantly seeking his relation to nature, in what he is dependent upon her, and how he can best make her subserve his needs. Number evolved astronomy from astrology, chemistry from alchemy. The telescope has opened our eyes to the glories of the heavens; the microscope, to the mysteries of earth. Man's thought is flashed around the world by means of the telegraph; he has bridged the ocean by his floating palaces; he has leveled mountains by railroads. Number produced the exact proportions which made it possible for the beautiful White City to appear in all its harmony and grandeur—a realization of the fairest dream of artist and artisan. It is the exact concept that is the great factor in the political economy of today. Did all the arithmetic we ever learned give us a more definite idea of the forces acting upon us, or a broader view of creation? A child never risks a definite judgment because his observation is not exact, consequently his concept must be vague and inaccurate.

The number in science divides itself into two classes; the collection of

accurate data, and comparison to make generalizations. It leads to close observation, exact and correct habits; by continued exact measurement and weight, truth and honesty are bred in the bone. The science work will only be effective and educative when the exact relation of things can be determined. In the study of the soil, upon the power of clay, loam, sand, and gravel to absorb and retain moisture, depends its productiveness. What is the ratio of the rate of germination of seeds in clay, loam, and sand? What is the relative value of soil that is two-thirds sand, three-fourths clay, etc.? What is the relation of the number of seeds produced by annuals, biennials, and perennials? Compare the number of seeds distributed by wind, animals, ocean currents, structural contrivances, etc. Examples might be multiplied.

"Turn, turn, my wheel! turn round and round,
Without a pause, without a sound,
So spins the flying world away.
The wind blows east, the wind blows west,
The blue eggs in the robin's nest
Will soon have feathers and beak and breast
And flutter and fly away."

The child is in constant relation with the laws of change and motion which are manifested in physiology, physics, and chemistry. He cannot take a breath of fresh air that these laws are not brought into play.

The modes of attention, or study, are the observation of the child, instruction of the teacher, and reading. The concept should be gained by direct contact with the thing itself, and then the real or written symbol may be given. By the law of association, when two concepts are in consciousness in immediate succession, the presence of one will recall the other. The symbols then arouse thought, otherwise they are merely dead form.

As consciousness receives only one class of elementary ideas through one sense, to obtain an adequate concept all the senses must be brought into play. The energy which produces the concept should be reflected in the expression of it and render the externalization of the concept an echo of the external world. The idea of form can only be gained by touch; color, by sight; flavor, by taste; perfume, by smell; weight, by the muscular sense. The union of these elementary ideas produces an individual concept. If this concept is to be expressed, it can only be done by using different modes of expression; form, by modeling; color, by painting; outline, by drawing; other attributes, by oral or written expression. These modes should supplement, but not duplicate each other. The mind and body should act as a unit.

A gentleman, looking at a picture by the great artist, Turner, exclaimed, "I don't see all that color in the landscape!" To which Turner pertinently replied, "Don't you wish you could?"

If a child is required to reproduce an object in color, he is driven to close observation. Let him see the relation of function to color in plants. He usually selfishly considers that the object of perfume and color of a flower and ripened fruit is to gratify his taste and enjoyment; he does not realize that the flowers are enticing the bees and butterflies so that their pollen may be distributed; that before the fruit is matured it is green like the leaves, disagreeable to the taste; but as soon as the seeds are ready for distribution they assume the luscious taste and attractive color to lure man and animals, in order that the species may be distributed and perpetuated.

A boy sees nothing in an earthworm but a bait for his hook; but let him examine its structure and relate it to its environment; let him draw its spindle-shaped body with its segments and spines; let him examine its habits; let him know that all the vegetable mould passes through the bodies of earthworms every four years, and he ceases to feel the same contempt for it, but begins to realize that mighty results can be accomplished by very humble agents.

What has been the experience in teaching language? We can all recall the time when we were given our subjects for compositions. It may have been Glory, Fame, Truth, or Virtue is Its Own Reward; and how we sat and gazed at the back of the boy's head in front of us; how we sought the ceiling for inspiration from above; how many violent incursions we made into the inkwell; how in desperation we tried to chew some thoughts from the end of our penholder. Rain does not fall from a clear sky, water does not flow from a dry well, and we cannot expect a child to have thought until he has observed something to think about. Do you think a child would have any thought to express after he had made some beautiful diamond-shaped crystals out of blue vitriol; or had observed the expansion of metals, liquids, and gases; or the adaptation of structure to environment in a blind mole; or the long, slender legs, neck, and bill of a heron; or the webbed feet of a duck; or realized the perfection in the structure of the woodpecker, with his keen eyes, strong, sharp bill, dart-like tongue, arrangement of his toes, the stiff, sharp quills in his tail which serves as a stool, the location of the brain in the back part of the head to prevent the pecking from jarring it; or, when he appreciated his own matchless form?

Literature is the beautiful expression of truth. The child thinks like the race in the childhood of the world. He lives in an atmosphere of wonder and imagination to which the myth and fairy story correspond. Homer's poems contain the best classical representations of an ideal boyhood. What could be more beautiful than the relation of the myth of Apollo and Aurora to the sun; Ceres and Persephone to the change of seasons; Prometheus to flame; Hermes, Athens, Ulysses, and the Bag of Winds to the air; the King of the Golden Sword to evaporation; Apollo and Daphne to trees; Clytie to flowers; Sisyphus to sand. Some of our most gifted writers have been close students of nature, and we find its beauties mirrored in both poetry and prose.

If science is going to enter into the sacred realm of the present order of things, upon entering it must be in organic relation with things already there. Can form and number and the different modes of expression be acquired under the direct impulse of intrinsic thought? Is it necessary for any time to be consumed in acquiring the forms of expression? How does the child acquire his oral expression? Does he spend much time in practicing the elementary sounds of the words? By no means. Every sound he utters is the expression of a thought. Should he ever write a word, draw a line, or model a form which does not express a thought? It may be crude in the beginning, but it is a step in the right direction. Why is there such a gulf between oral and written expression? Acquiring the forms in writing is purely mechanical and only the motor nerves of the brain are brought into play. When the writing is the expression of thought, it is poor because the fibers connecting the thought nerves and the motor nerves are weakened by atrophy and refuse to act.

There may be three points in a plane apparently isolated. We can find

a point, take it as a center, and draw a circumference through these points which will establish a relation between them and the central point and make each a part of the whole. The three R's may be the points. Shall science be the center? But we must select other points in the circumference. Could drawing, painting, modeling, making, language, literature, history, find a place there? Could these subjects radiate from this same center?

All nature moves in a circle; all life is a constant reproduction of itself. Science affords ample and beautiful material for the highest mental, moral, and physical development of the child, and it only requires the master hand of the teacher to use it to advantage. The end to be attained in all education is the unity of God and man.

DISCUSSION.

Opened by SUPT. W. C. HULL of Albion:

This subject should not be passed without some discussion, even though so well covered by these papers. It seems to me, however, that the basis of unification, instead of being any one study, should be the purpose, the foundation, the underlying principle that actuates us in all our work as educators. Pres. Eliot says: "Four things are the means toward the end of the development of power—observing accurately; recording correctly; comparing, grouping, and inferring justly; and expressing cogently the results of these mental operations." As has been said in the last paper, the soul is made up so very largely of that which it takes in through the senses from the outside that we must go back to nature, and science is nature; as we must develop the soul through nature, it becomes a necessity that we go to nature for the means of this development.

SUPT. PERRY of Ann Arbor:

One point should be emphasized. If we are to unify, we must ask for some standard as a central thought or principle. It could not be reading, as the object of learning to read is to read good books. I do not accept the idea that it is mental power toward which we are aiming. If we say that it is the development of the child's character, we shall reach something which is of a more general nature. Perhaps we might make it broader by saying it is whatever tends to the development of the child's character. Let us select studies which shall interest, which shall be pleasing to him, and so make his mental life easy and natural, and we shall unify his work. All the subjects mentioned work toward this end, and what shall be our standard of how much of each shall be used? The matter of unifying our work is perhaps not entirely a new thing. We have been working toward it, though it may be unconsciously to ourselves. As it has been presented to us today, it is something in new form.

Election of officers by acclamation. President, Miss Louise Miller, Saginaw, E. S.; Secretary, Miss Margaret Wise, Ypsilanti.

Meeting adjourned.

COLLEGE SECTION IN SENATE CHAMBER.

The College Section was called to order by its chairman, Prof. W. J. Beal.

Prof. Hamilton King for the Committee on Organization made the following report:

Your committee appointed last December to confer with the general association about a plan for more complete organization of the College Section now reports that, at the first meeting of the Executive Committee of the State Teachers' Association, the following was submitted:

Believing that the object for which the College Section of the State Teachers' Association was formed will be more satisfactorily attained through a different form of

organization, we, the committee appointed by the College Section, speaking for said Section respectfully request:

1. That hereafter the College Section of the State Teachers' Association be permitted to elect its own officers and prepare its own programs, and that the officers of said College Section shall be,—

A president whose duty it shall be to preside over all meetings and who shall be a member *ex officio* of the executive committee of the State Teachers' Association; a secretary who shall keep the records of all meetings of the Section and shall see that these records, together with all papers presented before the Section, shall be placed in the hands of the secretary of the general association; and a vice president who shall, in the absence of the presiding officer, perform the duties of president.

2. That the president shall appoint a committee on nominations during the first session of each annual meeting, which shall nominate the officers for the ensuing year. The officers shall be elected by *viva voce* vote of the Section, a separate vote being taken upon each name as presented by the presiding officer.

The above requests were granted and the spirit of the movement most heartily approved by the executive committee of the general association. The largest liberty was granted the College Section in completing details of organization along these general lines.

HAMILTON KING,
WILLIAM J. BEAL,
SAMUEL D. BARR,
Committee.

This report was adopted by the College Section, the constitution being taken up article by article and each adopted separately, then the entire constitution. The president appointed as Committee on Nominations, Dr. B. A. Hinsdale of Ann Arbor, Prof. B. L. D'Ooge of Ypsilanti, and Prof. Howard Edwards of M. A. C.

"COLLEGE ATHLETICS—THE PROPER ATTITUDE OF FACULTY AND STUDENTS TOWARD THEM."

PROF. SMITH BURNHAM OF ALBION COLLEGE.

The careful study of athletic sports and of their relation to college work and discipline is particularly important just at the present time, because of the existence of two facts. The first of these is the rapid development of the athletic spirit during recent years. This is seen not only in colleges, but wherever any considerable number of young men are brought together in social relations. Almost every city is coming to have its athletic club, the high schools are becoming training schools for college athletes, and never have college students devoted so much time to athletic sports as during the past year. In the second place, athletic sports and the attitude of college faculties toward them have never been so sharply criticised as during the current year. The rapid development of athletic interest in this country is producing the reaction which all history teaches us to expect in connection with such movements. During the collegiate term just closed there has been hardly a day in which the press of the country has not contained some caustic paragraph denouncing the abuses of athletics and criticising college authorities for not taking cognizance of them. Unquestionably much of this criticism is just.

What should be the attitude of college authorities toward athletic sports? It is in the belief that this question is worthy of thoughtful consideration, and in the hope of contributing something toward its solution, that this paper is written. It may be profitable, before attempting to answer the

question propounded, to review the arguments that have been made for and against college sports as they exist today. Contrary to the usual order of judicial procedure, the defense shall have a hearing first.

The greatest of all arguments for athletic sports, in college and elsewhere, is that they help to save and form men physically. Herbert Spencer well says; "The first requisite to success in life is to be a good animal, and to be a nation of good animals is the first condition of national prosperity." Yet there is reason to fear that we are not as good animals as were our fathers. Many of the influences of modern life tend to produce deterioration in the animal, man. The keenness of competion, the intense application required of him who succeeds under the conditions of today, the general high pressure under which we live, result in a wear and tear which tax even the strongest. The inventions, which have contributed so much to make the civilization of the nineteenth century what it is, almost without exception lessen the severity of manual labor. The conditions of modern life, the rapid increase of our urban population, many of whom have less of wholesome food and pure air than their fathers had, the steady growth of that part of our people who are forced to lead sedentary lives, all tend to diminish physical vigor just at the time when, because of faster living, it is most needed. The college man, if he is to become what he should be, a leader in the day and age in which he lives, must possess this first requisite of success, a good physical organization. If he have it not already, he must diligently seek to secure it. Special difficulty besets him here. His life is pre-eminently a sedentary one. How shall he preserve his present physical vigor? How shall he so increase and develop it as to prepare him for doing well the work of life before him? The fact is that the students of today are physically far in advance of those of a quarter of a century ago, and the all-important cause of the change is to be found in the general attention given to athletic sports in recent years. In short, the colleges are sending out a better class of men than ever before. On this point hear President Eliot of Harvard: "It is agreed on all hands that the increased attention given to physical exercise and athletic sports within the last twenty-five years has been, on the whole, of great advantage to the university; that the average physique of the mass of students has been sensibly improved, the discipline of the college has been made easier and more effective, the work of many zealous students has been done with greater safety, and the ideal student has been transformed from a stooping, weak, and sickly youth into one well formed, robust, and healthy." We may well hesitate before casting the slightest obstacle in the path of a system that has accomplished such results.

In the second place, athletic sports may be justly defended because of their educational value. What is the end and aim of college education,—of all true education? Is it not primarily to develop to the fullest possible extent all the powers of the student, physical, mental, and moral; and still further, to give him that practical utilitarian training which shall fit him for the greatest possible amount of usefulness in the life which lies just before him? In so far as athletic sports tend to awaken an interest in physical culture, and to develop and strengthen the physique of the individual student, they contribute directly to the attainment of the primary end of education. But, judged from the utilitarian standpoint, their value is even greater. Far be it from me to depreciate the value of scholarship and culture as elements that contribute directly to success in life; but I do claim that certain qualities of mind and character not involved in them are

even more essential to success in the contests of life,—qualities, too, in which the college man, secluded as he is and cut off from contact with the world of action, is too apt to be wanting. Sports tend to bring students into competition, and hence to supply to some extent this defect inherent in the very nature of scholastic training. For example, the recently much maligned game of Rugby football cultivates to a high degree that all-important faculty, the ability to read men. It develops executive power, leadership, habits of command, and at the same time habits of subordination, coöperation, and that self-forgetting *esprit du corps* so absolutely essential to the highest success in all concerted effort. For the individual it means perseverance, resolution, courage, quickness of perception, judgment, and action; the power to labor on under defeat; that "never say die" spirit which has won so many glorious victories on every field of human achievement. The often reiterated charge that college men do not gain those positions and that influence in the world which their culture would seem to promise, has much of truth in it; and that it is true is due in no small degree to the fact that the college men of the past have been very largely without that educational training which some students, at least, are today obtaining from college athletics. In fine, the world is not calling for scholarly ascetics, but for men of real culture who are also full of force and energy; men who not only have the ability to solve the practical problems of life which meet them on every hand, but also the purpose and courage to do it.

Again, it is urged that athletic sports furnish the necessary mental stimulus to go with physical exercise. It is a fundamental principle of exercise that to be beneficial, it should be regular and systematic. This is generally taken to mean a set time for exercise, a fixed amount of it, and a suitable place in which to take it, a place of the proper temperature and supplied with pure air. But it is under the kind of exercise to be taken that the real problem arises. Enforced exercise is of comparatively little value. The ideal form of exercise is that in which the mind as well as the body is enlisted. To be in the highest degree beneficial then, exercise must not only be regular and systematic, but also so interesting that students will desire to take it and will do so without making it a burden. It is just here that the sportive motive comes in as an essential. As Professor Shaler has pointed out, this motive is a natural one. It is found in the young of all animals; but in man intelligence reinforces it by leading to the desire to conquer for conquering's sake. These two motives lead directly to the development of athletic sports, and one of the most forceful arguments to be made for such sports is that they free exercise from a sense of duty.

Athletics aid in the promotion of good order in colleges. They make discipline easier and more effective. A comparison of the present general good order with the conditions existing before the days of athletics is sufficient to establish this point. The testimony of experience is conclusive. Careful observers of college life almost unanimously agree that the cause of the disappearance of hazing, and very largely of the wild college pranks so frequent in days gone by, is to be found in the attention now given to sports. College students, in most cases, are boys of energy and vitality, often filled with wild, animal spirits which will out in some way. It is this class of boys who take most eagerly to athletics. Better by far that this superabundant vitality should find an outlet upon the campus in friendly rivalry with one's fellows under healthful associations than in

midnight escapades or, worse still, in the haunts of vice only too easily found in most college towns. Athletic sports, then, are directly conducive to good order; by furnishing occupation to the physically active, they provide a safety valve which prevents many destructive explosions of pent up animal spirits.

Closely connected with this last argument is the point urged by some that athletics furnish a healthy topic for conversation out of study hours. This has been sharply criticised by others who think that more profitable topics of conversation should be found. Despite these criticisms the point seems to me to be well taken and to possess great value. There is an old saying so commonplace that college professors are prone to forget that the truth embodied in it is vital to the highest success in college work. "Boys will be boys." They will not talk about the Nebular Hypothesis or Sturm's theorem during their hours of recreation. Better by far, again I say, that they should discuss the last game, speculate upon "our" chances in the next one, or canvass the merits and demerits of this or that hero of the diamond or the gridiron, than while away their leisure hours with the foolish jests and worse than foolish stories so sure to be told unless something better occupies the mind. But there is a more positive value in such conversation than the exclusion of trivial topics. The mind as well as the body requires times of recreation. Interesting conversation of the kind referred to, not requiring study, tones and balances the mind for further effort.

It is also urged that athletic contests awaken enthusiasm and go far toward accounting for the warm interest of alumni in their Alma Mater. Few will question the importance of the creation and maintenance of a proper college spirit. Yet too many of our colleges are lamentably wanting in this respect. The existence of this spirit, which might well be called college patriotism, is due to many causes; but perhaps there is no more potent factor in producing it than the athletic contest, and this influence will be felt long after the college days are over. The men who, in after life, as the memories of their student days come back from time to time, can feel their pulse thrill again with the excitement of the contest or the exultation of victory, or can remember with grim satisfaction the determination to regain the laurels lost, which came perhaps in the moment of defeat, cannot but cherish a warmer feeling for the "old college" than the mere book-worm can ever possess. The lapse of years will only bring a clearer appreciation of the value of athletic training and of what it did for them, to men who cherish such memories as these. No one would plead that the fostering of enthusiasm and interest among the alumni is the end sought in athletics; but, other things being equal, in so far as sports promote this greatly-to-be-desired feeling of college loyalty they should receive the praise. While thus contributing to the development of proper college spirit, athletics tend either to moderate class feeling by subordinating it to enthusiasm for the college organization, or to furnish a safety valve for it in inter-class contests.

The cultivation of athletics tends directly to an improvement in the habits of the great body of students. This is brought about not only by the fact that the athletic men while in training must abstain from the use of alcoholic liquors and tobacco, and from all habits that enervate the physical organization, but much more by the sense of pride in a good physical state engendered by their action. The leading athletic men of the college are heroes to the majority of the undergraduates. If temperate

habits must be cultivated in their case, they are quite likely to be by those young hero worshipers who aspire to be like them and who have sense enough to see that temperate living is necessary to a high state of physical excellence.

Again, contests between different colleges bring the students into a wider world. The-stay-at-home is proverbially narrow minded. It is as true as it is trite that travel broadens the mind and cultivates the spirit of toleration. Equally true is it that contact with one's fellows outside the environment of every day life has the same effect. The student who occasionally meets in friendly rivalry the representatives of other colleges is quite apt to have his mind disabused of that pernicious idea so common among undergraduates, that the educational world revolves around that particular institution of learning to which he belongs.

Lastly, the advocates of athletic sports contend that they furnish instructors an opportunity of meeting their pupils as men interested in a common good, without the chilling reserve of the recitation room. That there should exist between teacher and pupil the utmost good feeling and mutual sympathy, not only as between men who are pursuing a common scholastic end, but also regarding any other praiseworthy object of interest to either, none will deny. Yet there is little prospect that this mutual feeling will exist in the full sense in which it should, unless something is done to counteract the restraint which, whether rightfully or not, is almost universally present in the relation of teacher and pupil, unless their lives come in contact at some other point than that implied in that relation. The athletic field, more than any other place, furnishes an opportunity for the insructor to show himself a boy with the boys; to put himself in sympathetic touch with them; to obtain their respect and confidence, and thus acquire an influence upon their lives which he can in no other way.

The defense will now rest its case, and the prosecution shall have a hearing.

In the first place the critics of athletic sports charge that they absorb too much time and attention; that the hours given to training should be devoted to study. In the older and larger institutions of the country this objection is no doubt a forcible one, at least as applied to the members of the various athletic teams; but a study of the facts leads me to believe that, aside from a few isolated instances, it has little force when applied to our Michigan colleges. Students in them do not, as a rule, devote too much time to athletics. Practice takes place during the time set apart for recreation, a period in no case longer than the physical necessities of the students require, and most of the match games are played on holidays. As applied to games played during the hours of college work or at so great a distance as to require absence from college sessions for purposes of travel, the criticism is just.

Closely allied to the first charge, but to my mind of far greater significance, is the assertion that the excitement attendant upon athletic games detracts from study. It is no uncommon thing for the freshman who wins a place upon the nine or the eleven, or even for the student of mature years in the same situation, to spend most of his waking hours thinking about the next game and then fall asleep to dream about the same absorbing subject. The force of this statement must be freely admitted, but perhaps the query is pertinent as to whether this excitement is worse than that which would take its place with students of this stamp were athletics banished.

Again, though admitting the value of athletics to those who participate in them, it is charged that the few only are benefited, while contests serve to diminish the interest of the student body in personal exercise. At first sight this seems a serious criticism. A visitor to the campus of almost any Michigan college during recreation hours would probably find twenty-five students playing ball and possibly two hundred others looking on; but a moment's consideration as to why there are two hundred spectators and what they would be doing were the athletic interest absent, leads to the conclusion that the criticism is not so severe after all. Certainly we have no reason to suppose that they would be exercising were such the case, while an hour in the open air each day, even though they take no part in the games, is invigorating to both body and mind.

We now come to a class of objections to athletics of a much more serious nature than those which we have been considering. The editor of the *Nation* very forcibly states one of them in the following words: "The greatest evil which the modern development of athletics has brought in its train is the predominant and overmastering athletic ideal. There is no compensating advantage to put over against this distorted conception of life, and particularly of college life, this false standard of individual and college distinction." Athletics are thus charged with retarding young men in arriving at serious and worthy ideals, and with creating and fostering the opinion that athletic distinction outranks scholarship, and, as others have claimed, with a tendency to make fine brutes of men. This charge is a serious one. That there is danger of the setting up of a false standard by which to measure men, danger of the creation of a false ideal in the minds of college students, a little consideration will show. Take the college papers for instance. Most of them devote more space to athletics than to any other department, and not a few of them more than to all other departments combined. The college correspondence in the great daily papers of the country exalts the athletic interest. The leading athletes are the great men of the college. To follow in their footsteps comes to be the one ambition of their youthful admirers. Then the college glory of the successful athlete hides a source of danger to him. If he become unduly elated, as I fear he is too prone to be, by the distinction which thus comes to him, sad will be his fall when his college days are over and he finds how little it all means to the world of business. He has been nursing a false ideal and must unlearn much, and then find himself handicapped because of neglected opportunities. Any ideal that subordinates scholarship to athletic interest is pernicious.

But there is a spirit fostered by athletics which my own observation leads me to think far more dangerous than this, indeed by far the most dangerous tendency connected with the whole athletic system as it exists today. I refer to the "anything to win" spirit, the resorting to any sort of subterfuge, no matter how low or dishonest, if it will gain the end desired. This spirit manifests itself in a hundred different ways. In its lowest forms it is seen in professionalism in its coarser phases, in the tampering with umpires, and in the deliberate injury of players in order to get them out of the game. If these things were all, the evil would not be so threatening, for the majority of athletic men do not uphold them. It is in the subtler forms in which this spirit shows itself that the greatest danger lies; in the half-concealed professionalism, and in the underhanded and ungentlemanly way in which too many college athletes take advantage of the misfortunes of their opponents. I need not go on to specify these

acts. Were I so inclined, I could paint a black list of them from the records of the Michigan Intercollegiate Athletic Association. Harmless as many of them look, they are of such a character that a high sense of honor would lead the student to scorn them; but the average undergraduate does not look upon these things in this way, and therein lies the danger. Unconsciously he is forming a habit of thought which will warp his moral vision and in the end blacken his character. To the youth who resorts to trickery or dishonesty to win in college games, the limits of honorable action will never be clear in after life.

This "anything to win" spirit is the greatest factor in producing the two evils that have recently attracted marked attention and brought the sharpest criticism upon college games; namely,—professionalism and physical injury. Let us look at each of them for a moment. The first, professionalism, may be almost entirely attributed to this spirit. This evil usually shows itself in one of the four following forms: in men who go to college simply as athletes and for no other purpose; in the pressure brought to bear upon graduates to induce them to return to play; in inducing *bona fide* students to change from one college to another for a monetary consideration; and in the tendency to pay money to students for occasional games. In whatever form professionalism shows itself, it is equally destructive to athletic interest and common honesty, and worthy only of the strongest condemnation.

The second serious evil, physical injury, has been specially observable this year in connection with Rugby foot ball, and has led to sweeping denunciation of that game. There is a very general misapprehension of the nature of foot ball, due largely to the arrant nonsense which many of the papers have recently published about it. An experience of four years upon a foot ball team leads me to believe that almost every injury received in this game may be traced to one of the three following causes: the playing of the game by persons physically unfit to do so; the non-enforcement of the rules which should, and probably soon will, be radically amended because of the new method of play developed during the last two seasons; or, by far the most important, the deliberate intentional act of an opponent. That one player will thus with malice aforethought injure another can only be accounted for by his possession of a brutal, or at least a calloused nature, dominated by the "anything to win" spirit.

Other charges, though of far less importance than those which we have been considering, are made against the athletic system. It will be sufficient to enumerate some of them. The fostering of betting, the disorders attendant upon victories, the matter of expense, and the excessive feeling engendered between different colleges, are the more important ones. None of these are vital or inherent in the nature of athletic sports.

Having thus considered at some length the advantages and disadvantages of athletics, we are brought face to face with the real question of the hour. What shall college authorities do in order to retain the unquestionable benefits and eliminate the undeniable evils of the present system of college sports?

An examination of the various attitudes of college faculties toward athletics, reveals the fact that they are trying to answer this question in at least three different ways; or, to be more exact (for faculties are seldom a unit upon this matter), college professors may be divided into three classes each of which is characterized by a particular attitude toward athletics.

The first class, strongly impressed by the abuses of the athletic system

and underestimating its advantages, would suppress intercollegiate games, discourage field sports, and replace them with military drill and systematic gymnastics, hoping in this way to secure the benefits of athletic sports without the attendant evils. The supporters of this plan urge in its defense that it would promote more general exercise, that it would prevent the intellectual loss due to athletics, and that it would do away with the hostile feeling, betting, and other evils attending contests. I do not favor this plan for the following reasons which appear to me conclusive. The athletic contest is the most efficient stimulus to physical exercise. This stimulating effect is seen in two forms; in the incentive found in the hope of a place on the team, and in the wider encouragement given the many who do not hope to reach a foremost place and yet are led to participate by admiration for the skill embodied in the contestants. This stimulus is necessary. The gymnasium alone is insufficient, because the average American youth requires a stronger motive to overcome inertia than its routine presents. The idea of emulation offers in a healthful way the needed diversion from this routine. The gymnasium best promotes the end for which it is intended when it becomes a training school for athletics.

A writer in the *Forum* has pointed out that the suppression of intercollegiate contests would lead either to a bitter rivalry and rancor between different college clans and classes or, to what is more probable, the rapid decline of college outdoor sports. On the latter alternative he says, "From the student point of view the college games find their reason to be in the preparation for the coming championship contests. Under present conditions, if these contests were abolished there would be great difficulty in maintaining outdoor sports." As I recall the long list of benefits which have followed the introduction of athletics in our colleges,—the students saved physically, the improved order, and above all the development of true manliness of character, I enter an emphatic protest against any plan that would substitute for outdoor sports the machine-like routine of the drillmaster and the gymnasium.

But this plan is practically impossible because of the attitude of the students toward it. They would almost unanimously oppose it. It could be carried out only by a coöperation of colleges, and even then it would cause a loss of students. Its universal unpopularity would lead to a discontent and disaffection incomparably worse in their effect upon college work and discipline than all the abuses which flow from athletics.

The policy advocated by the second class of college men is epitomized in the words "Let alone." These men either regard the evils in athletics as small and temporary with a tendency to cure themselves, or hold that it is not their business to interfere anyway. This is the position of men wholly out of touch with student life or of shirks and cowards, and in any case can only result disastrously.

To the third class belong the men who would make the best of the situation as it exists, who would encourage the good in athletics by all possible aid and sympathy, but at the same time would do all in their power to restrain excesses and correct abuses. This I conceive to be the true policy, It may be said that this plan, as stated, is too general in its terms. How shall we encourage the good and how restrain the evil? In the first place the teacher should encourage athletic sports by taking a personal interest and, where it is practicable, by participating in them. He should be seen upon the campus, and the students should be taught by his attitude to feel

that either victory or defeat means as much to him as it does to them. Often teachers may encourage athletics by such an arrangement of recitation hours as will promote the athletic interest without doing any violence to the work of instruction. If oversight or restraint becomes necessary, let it be given in a sympathetic spirit. The instructor who has shown a real interest in the sports of the students will find that he has won an influence over them which will enable him to do this, without creating the impression that he is hostile to athletics and throwing obstacles in the way of their success. Any attempt to reform the abuses connected with the athletic system by restraining or prohibitive legislation is fraught with great difficulty, and it is likely to prove dangerous to other educational interests, because such action is resented by the students. It is of vital importance to the success of all educational effort, even more emphatically so in college than elsewhere, that there exist a feeling of mutual interest and good-will between teacher and pupil. Any legislation on the athletic question that will diminish or destroy this good-will, should be avoided as far as possible. Action for restraining the abuses of athletics should come very largely from the students themselves. Adequate student action along this line can be secured in almost every case, if teachers have shown the sympathetic interest to which I have referred. A moment's thought will show how this can be done. In every college there are a few men, often one or two, who have it in their power to shape very largely the course of athletics in the institution. These men are the athletic heroes. They are recognized as such by the student body. Now let it be remembered that the real athletic hero must be a clean man in every way. Students are quick to discover the hypocrite and they will not long follow the leader who has not the ring of true metal. It is worth noting in this connection that the three men who have done the most for the development and promotion of college athletics in this country, Walter Camp of Yale, A. A. Stagg of Chicago University, and C. W. Whitney of *Harper's Weekly*, are all outspoken for honor and manliness in sports. The real athletic leaders, then, have all along opposed most of the evils that have been creeping into the athletic system. If they had not, be assured that these abuses would be unspeakably worse than they are today. Now, if this healthy student sentiment be supplemented by a sympathetic oversight coming from teachers known to be personally interested in the sports of the boys, that is, from teachers who are real leaders of student sentiment, it will be found that the students will exercise nearly all the needed restraint themselves. There will be little need for positive legislation by the college authorities; and, more than all, the goodfellowship between teacher and pupil will be preserved and strengthened.

The coöperation of faculty and students for the regulation of athletics may well take an organized form. It has already done so in several institutions. At Harvard athletics are regulated by a mixed committee composed of members of the faculty, graduates, and undergraduates. The Senate of the University of Michigan has recently created a board of nine, five professors nominated by the president, and four students elected by the athletic association, which has entire control of all University athletics. This board decides who shall not play, grants all leaves of absence and, in short, has entire supervision of the athletic system. At Beloit College, Wisconsin, athletics are controlled by a board similar to this except that the students have a majority of the members. Last year at Albion College we found that we obtained better results from the gymnasium work by

introducing the element of emulation. During the winter, indoor contests were held every two weeks. Desirable prizes, consisting in the main of books of the American Statesmen, or the Men of Letters series, were given and the results were beneficial. These contests were planned and carried out by a joint committee consisting of four members of the faculty and four students. I believe the same plan could be advantageously applied to the entire athletic system.

What measures of restraint should college authorities urge in order to eliminate the evils and abuses of athletics? Numerous recommendations of more or less value have been made in answer to this question, but they may all be fairly condensed into two sentences which should be made cardinal principles in the regulation of athletics. First, enforce a subordination of athletics to study. Require every man suspected of giving too much time or attention to sports, to come up to the required standard in the class room. This principle may be enforced by the simple yet effective penalty of depriving men who fail to reach the required standard of scholarship, of the privilege of taking part in athletic contests. Second, exclude from the contests all men not strictly representatives of the college. This will destroy professionalism, and strike a deadly blow at the pernicious "anything to win" spirit.

College faculties are very largely responsible for the abuses which have crept into the athletic system; responsible because they have done nothing, or at most have taken harsh, repressive measures which have only stirred up strife. They have it in their power, through a warm hearted encouragement and oversight and a sympathetic coöperation with the students, to eradicate these evils; but they cannot do it by standing aloof and out of sympathy with the students, criticising with censorious spirit everything that does not come up to their standard. They must not look for purely ideal conditions; but they have a right to expect a steady improvement in the condition of affairs, if they will only put their shoulders to the wheel in the right way and help to bring it about.

When we think of the interests involved; when we remember that the physical is the foundation of everything in this life and that all effort is conditioned upon it; when we remember the extent to which healthy moral character is due to physical stamina; and when we realize that it is the work of the educator to develop man all along these lines, physical, mental, and moral, we cannot but urge with all our powers the importance of properly encouraging and fostering athletic sports. What the results will be if we, as college teachers, fail to do our duty in this matter, has been forcibly put by Professor Richards of Yale. He says: "The college which neglects or ignores physical culture may send out scholars, but it will not educate forceful men. It will not be the living power which it might be. Truth is not to prevail by the dry light of intellect alone, but through the agency of good, wise, and strong men."

DISCUSSION.

Opened by PROF. D. M. MARTIN of Hillsdale:

The place of athletics in education is the same as a good, healthy body in every day life. All recognize that a carefully prescribed course in physical training, faithfully followed, is of great benefit alike to student, professor, and business man; also that a physique once developed is good for life. The time to acquire this is during the seven years, more or less, of high school and college life; the place, the gymnasium and athletic ground.

The competition in sports with other schools fits students to appreciate and be ready for competition in every day life, and causes him to think and act quickly. This is also valuable on account of bringing students into contact with a large number of representative men from other colleges.

The time necessary for athletics is not great, considering the end attained. One hour per day is not too much to develop a physique which must furnish energy for ten or twelve hours hard work per day and lay a foundation for a life's constitution.

The claim that a muscular ideal is a false one is true, but it is also true that the athletic expert and superior scholar are often combined. Careful comparison for several years of class room work with athletic skill has convinced me that, as a rule, the best student is the best athlete. This illustrates that brain is better than brawn even upon the athletic ground.

As instructors it is our duty to mingle as much as possible with the students in their sports, thus showing our interest in this part of student life, encouraging the honorable, discouraging the unmanly, our knowledge of the sports giving us a right to offer suggestions upon improvement. Give athletics their place, but help to make that place honorable and manly, thus helping us to give to the world, what it so much needs, manly men.

PROF. BARBOUR of Ypsilanti:

The valuable and systematic carrying on of physical training in our institutions and colleges does not depend upon so called college athletics, illustrated by foot ball and base ball. The people support gymnasiums by taxation and private contribution because they see the close relation between physical well-being and sound scholarship.

I hope that this meeting and discussion may result in the appointment of committees consisting of members of the faculties and students in our different institutions of higher learning, looking toward the modification of foot ball, as at present played, and the regulation of college athletics.

DR. HINSDALE of the University:

There is no doubt a full agreement by the members of the section on the following points:

1. That vigorous physical strength and development are necessary, as a rule, to vigorous mental and moral strength and development.

2. That such strength and development can be secured only through appropriate physical exercise.

The practical question is, what the needed exercise shall be and how it shall be secured. Manifestly, the true ideal is not the athlete, considered as a specialist. The hardest question, at least for me to answer, is the relation, if any, that exists between normal physical exercise and those more strenuous and violent forms of exercise which develop the athlete.

Many assert that proper interest and enthusiasm in normal exercise cannot be maintained in colleges without "teams" and intercollegiate contests. The point is an important one, and I am unable to answer it to my own satisfaction. It is argued by some that, if the elements of hazard, fortitude, and daring, are eliminated to such an extent that the result will be what we may call "nice" and "proper" exercises, the interest of the students as a body will be materially weakened or killed outright. This claim should be more fully investigated.

We all recognize that athletics are now attended by many evils; moreover, we are confronted by the question, "What shall be done to eliminate or reduce these evils?" I am clearly of the opinion that the key word is not "suppression," but "regulation." Nor do I think that faculties, as a rule, would find it wise to attempt to regulate the subject by themselves exclusively. On the contrary, they should take the students into their confidence and secure their coöperation. I am of the opinion that it was wise for the Harvard authorities and for the University authorities at Ann Arbor to constitute their athletic boards in part of representatives of the great student body.

PRES. FISKE of Albion:

I am not an athlete, I did not begin training when young and have not taken it up in later years, yet I can but feel an interest in this subject as affecting college life.

It is plain to me that there is a dangerous trend today in college athletics. That the great Thanksgiving contests as between Princeton and Yale, and those waged in Chicago—the outcome of a year of thought and training and feverish anxiety—could take place without neglect of study and the harming of scholarship, I cannot conceive to be possible. Evils are incident to intercollegiate games in any event and, if these games take place, then, in the interest of honesty and morality, provision should be made to secure fairness in the decisions rendered. Referees and umpires should not belong to either party engaged in the contest.

Recreation should be encouraged, but athletics as conducted at the present time are participated in by a small percentage of the students, so that practically the few overexercise and the majority do not exercise at all. Foot ball as now managed is certainly dangerous and should be radically reformed. To have outdoor sports is not an evil, but there are grave objections to the methods now in vogue. Something ought to be done to effect a revolution, and it seems to me this College Section of the State Teachers' Association should take some action in the premises.

To push regular college work aside so as to clear the way for practice games is certainly of doubtful utility. Affairs should be so managed that the purpose of the college should not seem to center in athletics, but that athletics should be subordinate to scholarship and be made to contribute to it. In the ideal college, health and strength are gained along with mental culture, and the improved physical conditions become an aid in the gaining of scholarship. Can we not get nearer the ideal? Is not reform both desirable and practicable?

Restrictions are needed and decided reforms should be introduced.

PRES. THOMAS of Adrian:

The serious accident at Adrian this fall has been much commented upon. The injury to the young man was the purest accident and might have occurred in any game. I am in full sympathy with athletic sports and think we must encourage them. Faculties and students must together take hold of the matter and correct the evils. If foot ball rules are lived up to, brutality is impossible.

PROF. D'OOGE of Ann Arbor:

I arise simply to express sympathy and interest. What is needed in sports is not suppression but regulation. A committee of faculty and students should be appointed.

PROF. BARBOUR of Ypsilanti:

It is *physical training* that we need. Girls need physical culture as well as boys. The college faculty can, if it will, control the entire physical culture of the students.

JUDGE DRAPER of Cleveland, Ohio, being present was called upon and said:

You are essentially agreed, but I desire especially to call attention to the immoralities growing out of the game of foot ball. (1) It encourages deception; a team to win a game will substitute players from other schools and claim the players as its own. (2) It leads to gambling as to results of games. (3) It results in carousing.

The danger in the game is what gives it its interest. College faculties cannot avoid responsibility for the immoralities and calamities.

Resolved, That it be recommended to the faculties of the University, the colleges, and the Normal School of the State, to appoint each a representative and to secure the appointment of a representative by the students thereof, who, together shall constitute a committee that shall meet at some time and place to be fixed hereafter by conference, for the purpose of discussing the subject of college athletics and, if possible, of reaching and formulating some conclusions that, when approved by the faculties, shall conduce to the better regulation of athletic sports. Adopted.

On motion President Fiske was made chairman of said committee and authorized to call them together. The committe was given power to act in making public utterance for this Section before the next annual meeting.

Prof. King, for the Committee on College Requirements for Admission, made the following report:—

Your committee appointed last December to confer with the several colleges and universities of the State upon the best way of bringing about a better adjustment of school and college courses, sent the following letter to each of the institutions of higher instruction in the State which they consider directly interested in the matter:

Olivet College, October 20, 1893.

DEAR BROTHER—At the meeting of the College Section of Michigan State Teachers' Association last December, the question of "Requirements of Admission to the Colleges and University" was considered and the following motion adopted:

A committee shall be appointed from this body who shall have the time and opportunity to study the question as it deserves; who shall confer with representatives of the University and colleges of the State upon the best way of bringing about a better adjustment of school and college courses, and who shall, at our next annual meeting, bring before us the results of this conference, together with such recommendations as

they may deem wise, in a form for definite consideration and, if need be, action. The president appointed as such committee Messrs. King, Beal, and Barr.

In accordance with this motion your committee suggests:

That the matter be brought before each faculty for an informal discussion.

That a committee of one be appointed by each faculty who shall be instructed to vote on the question, "Is it advisable to proceed further with the question of Uniformity of Requirements for College Admission?"

That the committees from the colleges meet with the committee from the College Section for conference Dec. ——, 1893.

In event of a favorable decision, the committee further suggests:

That the joint committee make a report at the next annual meeting of the College Section, recommending the lines of work along which it is thought wise to inaugurate the movement.

Believing you are sufficiently interested in the wise conclusion of the whole matter to bring it before your faculty and report to us the decision reached, we have ordered sent to you a copy of "Transactions of the Michigan State Teachers' Association of 1892," and call your attention to pp. 65–77.

See p. 296, Mich. Report of Supt. Pub. Instruction.

Cordially,

HAMILTON KING, Olivet College.
WILLIAM J. BEAL, M. A. C.
SAMUEL D. BARR, Albion College.

To this letter has been received a favorable response from the University and all the colleges without exception, and each institution appointed a representative to confer with your committee. After the general conference with these representatives, in view of the fact that the committee of ten appointed by the National Association of Teachers to consider this same question is to make its final report in the near future, your committee would report progress and pray that time may be given at the next annual meeting of the Section for a final report.

All of which is respectfully submitted.

HAMILTON KING,
WM. J. BEAL,
SAMUEL D. BARR,
Committee.

The request was granted by the association and the report accepted.

On motion a committee of three was appointed for further consideration of the constitution, especially with reference to what constitutes membership in the College and University Section. The president appointed as such committee Messrs. King, Barbour, and Gurney.

Prof. D'Ooge asked that Mr. Storrs of the State Board of Corrections and Charities be given an opportunity to address the meeting. Mr. Storrs called attention to the increased interest being taken in the study of sociology and suggested that this science should be taken up as a regular study in the colleges of Michigan.

Voted to recommend that, as soon as practicable, the study of sociology be introduced into our colleges.

Dr. Hinsdale for the Committee on Nominations reported for president, Dr. Fiske of Albion College; for vice president, G. I. Kollen of Hope College; for secretary, C. H. Gurney of Hillsdale College.

In accordance with the provisions of the constitution, the above named persons were elected officers for the coming year.

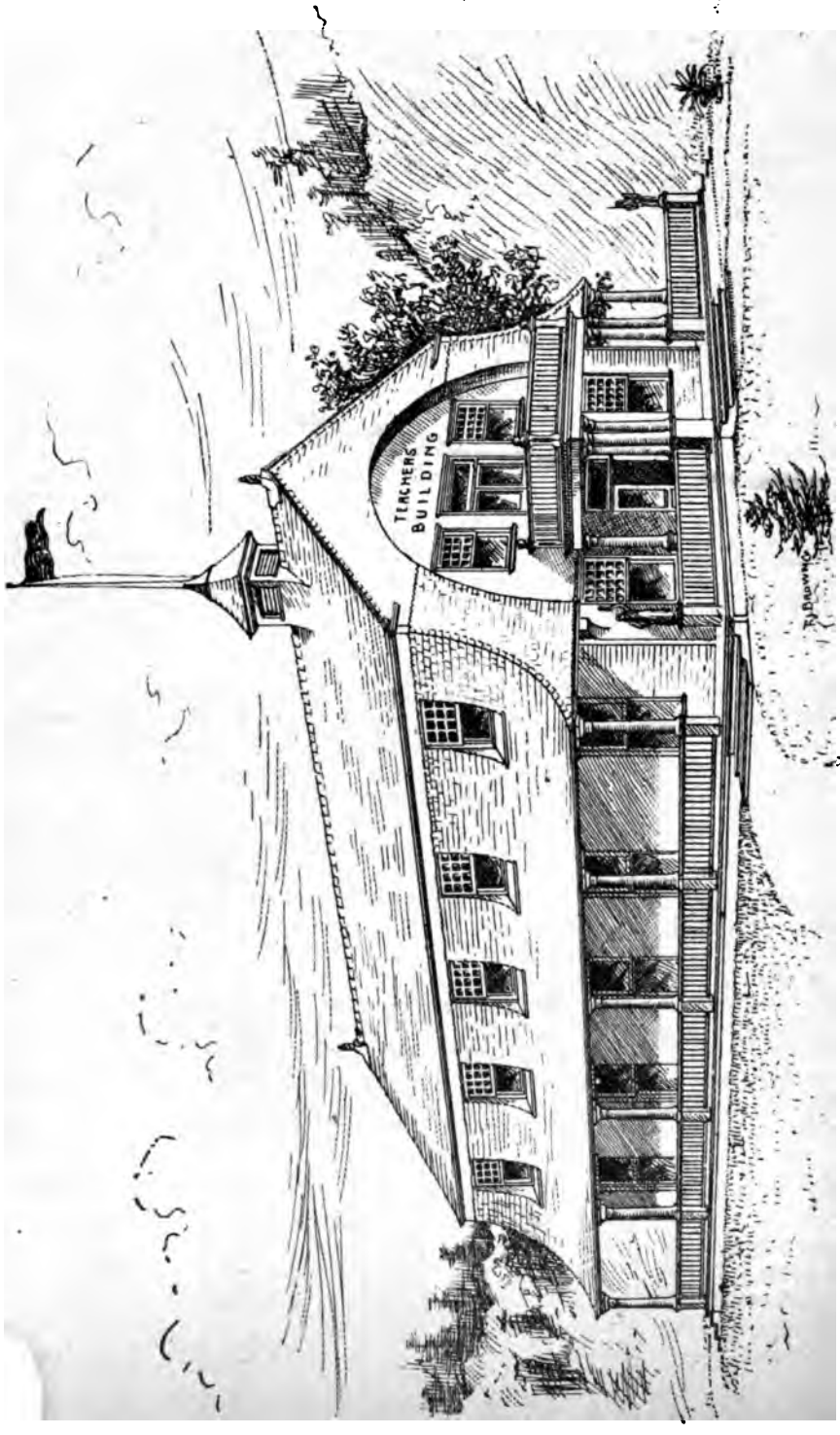
The chairman congratulated the Section upon the interest shown in the discussions and the success of the annual meeting.

The following schools had representatives present during this session:

Michigan University.
State Normal School.
Albion College.
Kalamazoo College.
Benzonia College.
Michigan Agricultural College.
Hillsdale College.
Olivet College.
Alma College.

On motion adjourned.

C. H. GURNEY, *Secretary.*


TEACHERS
BUILDING

WEDNESDAY EVENING.

The large audience that gathered at the Congregational church to listen to Judge Draper's lecture on The Spirit of the Teacher was well repaid by the practical manner in which the subject was treated, many helpful hints and suggestions being advanced to aid the teachers in meeting the various difficulties of every day school life.

The reception which followed in the Executive Parlors was chatty and informal as possible, Gov. Rich and wife, being assisted by Mayor Bement and wife, Supt. Pattengill and wife, Pres. Gorton, Mrs. Arbury, Supt. Hoyt and wife, Prof. Cheever, and Judge Draper. One exceedingly pleasant feature of the occasion was furnished by Pres. Gorton, who had stationed flower boys in the halls with bouquets gathered from the college greenhouse, so that each and every comer received a fragrant token of his good-will to all.

THURSDAY, 9 a. m.

MUSIC—Solo by Retta Knight of School for the Blind.

PRAYER—Supt. Church.

MUSIC—Solo by Elsie Jennison of School for the Blind.

Congratulatory telegram from Illinois Teachers' Association read by Sec. Hoyt, as follows:

C. O. HOYT, Sec'y State Teachers' Association;
Many thanks for your words of greeting. Illinois teachers are with you in spirit.
J. H. FREEMAN,
President Illinois Association.

Two other telegrams were afterward received as follows:

C. O. HOYT:
The teachers of the Sunflower State return your warm greeting.
KANSAS TEACHERS.

C. O. HOYT:
Good cheer and greetings from Iowa. We will see you at Duluth.
FRANK B. COOPER,
President.

H. N. French, chairman of Hackley Park Committee, referred to the completion of the building presented to the teachers' association by Mr. Hackley of Muskegon, of which the accompanying cut is a representation, and stated that the keys had been turned over to the association. The following report shows what has been done up to date:

REPORT OF THE EXECUTIVE COMMITTEE UPON THE TEACHERS' BUILDING AT HACKLEY PARK, LAKE HARBOR, MICHIGAN.

To the State Teachers' Association assembled in convention at Lansing, Dec. 28, 1893:

Your Executive Committee would respectfully report that, for the purpose of accepting the generous gift of Hon. Charles H. Hackley of Muskegon, offered to this body at its last annual meeting, and in order to legally enter upon the duties incident to this accept-

ance, sanctioned by you, they have incorporated this association according to the laws of the State.

Second, that the sum of three thousand dollars ($3,000) donated by Mr. Hackley, has, during the past summer, been expended under the direction and supervision of your committee, in the erection of an excellent structure known as the "State Teachers' Building," on the grounds of the Hackley Park Assembly Association at Lake Harbor, Muskegon Co., Michigan.

Third, that this building and the ground whereon it stands is now the property of this asscciation in perpetuity so long as the condition of its acceptance is observed; viz. the holding of an annual meeting at Lake Harbor.

Fourth, that according to the contract with the architect and the builder, this building was completed on the first day of August, 1893, and that dedicatory exercises were had on August 3, the following program showing their nature.

PROGRAM.

10:00 a. m.
Music—Quartet, "Joys of Spring," Mrs. Ira Bennett, Mrs. Dr. R. W. Sweetnam, Andrew Fleming, G. W. Renwick.
Address—Prof. J. L. Hughes, Toronto, Canada.
Solo—Mrs. Louise Brehamy, Chicago.
Presentation of Building—Hon. Charles H. Hackley, Muskegon.
Acceptance on Behalf of the Michigan State Teachers' Association, President W. H. Cheever, Lansing.
Quartet—"Down in a Pretty Valley."
3:30 p. m.
Quartet—"'Tis Morn! 'Tis Morn."
Lecture—"Some Famous Wolverines," Hon. H. R. Pattengill.
Duet—Mrs. Louise Brehamy, Mrs. Ira Bennett; Mrs. Jay Bassett, accompanist.
7:30 p. m.
Lecture—"Lincoln the Native Product of America," Hon. M. E. Cole.

This being the World's Fair year and general interest turning in that direction, it was thought best both by your committee and by the Hackley Assembly Association not to prepare an extended program for this year, but to let the dedicatory exercises take the place of this. The unfurnished condition of the building was also against any other plan.

The attendance of teachers at the meeting was not large and was mainly composed of local representatives. Many citizens of Muskegon, however, were present, and the occasion was a very pleasant one. The addresses of Inspector Hughes of Toronto and of State Supt. Pattengill were admirable; the music and the day, delightful.

Your committee respectfully suggests that steps should at once be taken toward furnishing the building and arranging a program for a meeting (a large representative one, it is hoped) the coming summer. The outlay to make the audience room usable need not be large, and the furnishing of the parlor, reception, and other rooms, could be gradually done and thus not be burdensome.

It would add greatly to the now limited knowledge of the teachers of the State that there is such a building in which they have, or may have, ownership, and would stimulate an active interest in it and its purpose, if the School Moderator would publish a detailed description of the building, together with a cut of the same, embodying in such descriptive article the reasons of its existence and calling attention to the importance of the trust committed to the association, and to its possibilities for usefulness to the cause of education. Its hearty support will add to the membership of the association, and the mid-summer meetings in this most delightful and picturesque and healthful of all the parks of Lake Michigan will never fail to be both profitable and pleasurable. Your committee earnestly commends the home given to us at Hackley Park as worthy of our gratitude and generous care.

"THE TEACHING OF SCIENCE IN THE PUBLIC SCHOOLS."

The above subject was handled in a masterly manner by Supt. Draper, and the following is a brief abstract of his address:

The ancients maintained schools more than we think, but they were entirely in the interests of the kingly power. They were for the favored classes and for the few. The world sped on in darkness

because the masses were kept in ignorance. Light broke on the world with the shining of the star that glittered above the hills of Bethlehem, and Christmas has a civic as well as religious interest. The birth of Christ brought a new force into the universe that should overturn kingdoms and do away with oppression. The movement of the nations led on to the discovery of America. Next to the birth of Christ, Columbus accomplished the most momentous event in history. Within twenty-five years Luther fired the sunrise gun of the Reformation when he nailed his ninety-five theses to the door at Wittenberg, and nothing ever fired the hearts of people like the Reformation. The world-wide battle of the people against kings was now on, and the liberty of the common people grew out of it. The more we study, the more we will value the beneficent institutions under which we live, and the more close will seem the relation between them and the event we celebrate at Christmas time. The common schools followed the overthrow of kings. In all countries, and particularly in this, the progress of schools has been in proportion to the strength of the masses and the power of the people to see what they need. The school increases in power as science is introduced. Science has well been called "God's sense or sight." We all know the danger of controverting science and the vital relation it sustains to life, and thus it becomes a vital element in the curriculum of the schools. Formerly school government was not one of reason, but of force. A substantial ferule was always in sight, supplemented by a rawhide and other instruments of torture. At home the child was asked, not what he had done in school that day, but whether he had been whipped. Fortunately this has all passed away. It is now understood that it brutalized the pupils. Science has done much to improve the management of the schools as well as the instruction. The new education throws the "total depravity" theory to the winds. The elementary schools are beginning to introduce science in large measure. It has advanced from the colleges to the secondary schools, and finally to the elementary grades. Science is the interpretation of nature, and is seen in bird and flower as well as in the greater elements. There is science for the child as well as for the savant. Many simple experiments are in the reach of the class teacher. There is an awakening power in science and a harmonizing influence between teacher and pupil that eliminates many difficulties of government. The schools must train for intellectual alertness. As the mass cannot remain through the course, teachers must put the more force into the earlier years of the course.

"THE MICHIGAN MINING SCHOOL."

BY M. E. WADSWORTH, DIRECTOR.

This, the youngest educational institution of the State of Michigan, was authorized by an act of the legislature approved May 1, 1885. Under this act the school was organized and first opened for pupils Sept. 15, 1886; therefore the institution is today only about seven and one-quarter years old.

The object of its establishment was to give to such persons as desired it, an education that would fit them to develop the mineral wealth of the country—an education that would assist them in doing this work economically, understandingly, and make them better citizens and better helpers in the advancement of the State and nation.

Some little idea of the general progress of this institution can be gathered by the following table showing the number of pupils enrolled each year:

1886–1887	23
1887–1888	29
1888–1889	40
1889–1890	35
1890–1891	65
1891–1892	78
1892–1893	101
1893, fall term	75

As a general rule our students are financially poor or only moderately well to do. In fact, we greatly need funds to aid many men who are worthy, but are unable of themselves to complete their education for want of means. Farmers' sons make the largest class of any represented in the institution; and, while by far the larger number of our pupils come from Michigan, yet there were represented in the school last year twenty-three states and foreign countries.

Some idea of the standing of the different schools in mining engineering can be gathered from the following list which shows, so far as statistics have been obtained, the number of pupils studying mining engineering during the year 1892–1893, in most of the leading schools teaching that subject:

	1892–1893.
Michigan Mining School	101
Lehigh University	64
Columbia College School of Mines	52
Ohio State University	29
University of California	24
Massachusetts Institute of Technology	18
University of Minnesota	17
Colorado School of Mines	13
University of Arizona	12
Washington University	11
University of Illinois	7
Leland Stanford Junior University	7
University of Michigan	4

The State of Michigan has justly been proud of the fact that she had the largest University and Agricultural College in the United States. To this she can add the largest School of Mining Engineering, and one whose record for numbers has only been surpassed by the School of Mines of Columbia College in 1881–1885 inclusive.

To those who judge a school by the number of its graduates, it may be pointed out that, during its first seven years, the Michigan Mining School graduated 30 men, while the Massachusetts Institute of Technology required eight years to graduate 21 men in mining engineering; that the University of Michigan only graduated 20 men in twelve years, and only forty men in twenty-five years. Harvard University graduated 8 men in eleven years; Lehigh University was seventeen years in graduating 19 men, and has only graduated 53 in twenty-four years in her course in mining

engineering. Lafayette College has graduated 39 men in twenty-four years; Washington University, although situated in the large city of St. Louis, graduated only 19 in eleven years, and only 35 in nineteen years. The University of Pennsylvania, located at Philadelphia, graduated only 47 men in sixteen years; the University of Wisconsin, 13 men in nineteen years; the University of Illinois only 5 men in twenty-two years. The Ohio State University has graduated 20 men in twelve years in mining engineering.

Coming now to the schools that rank more distinctively as State Mining Schools, it will be seen that the Missouri School of Mines graduated 23 men in nineteen years; the Colorado School of Mines 8 men in sixteen years; the Dakota School of Mines 1 man in three years.

It is hardly proper to make any comparison of the number of students in a special or technical school, like the Michigan Mining School, with those in schools that give a more general education, like the University of Michigan, the Michigan Agricultural College, and the Michigan Normal School; but yet it may be pointed out that the University of Michigan graduated in all its courses only 11 men in its first four years, the Normal School the same number, and the Agricultural College none and only 19 men the first seven years.

The University of Michigan was organized March 18, 1837, and in 1839 there were in existence eight fitting schools (called branches) established to prepare students for the University, when it should be opened. In 1841 there were seven fitting schools (branches) and the University itself was opened on September 20 of that year. Yet in spite of all this preparation, having schools for no other purpose than to prepare pupils against the time of opening, having buildings erected for school work and also for the accommodation of both students and faculty, only twenty-five pupils were present the first year. In 1843 there were but 23 students, and the institution was greatly embarassed. Indeed, Governor Barry stated in his message that the University had expended $100,000 beyond its income and had little or nothing to show for it except buildings, library, and apparatus. In 1844 there were only 53 students, and a strong discussion of closing the University. Petitions were sent in by the people of the State asking that it be closed, on the ground that it was of little or no good to the State. In ten years after its establishment in 1841 it had only 64 pupils. Its increase since that time is known to all. What would have been the history of Michigan, if this great and noble educational institution had been closed in its infancy, as was desired?

It may be inferred that this greater number of mining engineering pupils in the Michigan Mining School is due to a greater laxity in the course, a lower grade of work done, and lowness of the standard; but it is thought that the following facts will serve to show that the grade of instruction and discipline is not below that of other schools that are considered to be of high grade.

1. Students coming from other Mining Engineering Schools to this one find that, as a rule, one year in another school will only count them for about one-half year here.

2. Out of thirty-four men that entered three years ago and were in line to graduate this year, only eight completed the course.

3. Of the class that entered in the fall of 1889, not a single man has yet graduated.

4. Since September, 1890, there have been dismissed, suspended

requested to leave, or gotten rid of intentionally in some way, thirty pupils —almost one-seventh of all the students that have ever been enrolled in the school from its commencement to the present time.

5. In its required hours of work, its forty-five weeks a year, its short vacations, and its practical work,—its present three and four years' courses are the equivalent of the four and five years' courses in most of the other schools.

Experience has forced the faculty to be more rigid in discipline with each succeeding year, to insist that every student in the school shall attend strictly to the work required of him, and conduct himself in a proper manner or else close his connection with the school; the same is required of the officers. The rapid advance of the institution in numbers and the act that no student has ever left it of his own motion to pursue a course in mining engineering elsewhere, until he had completed the course he had entered upon here, speaks strongly that the discipline and the courses meet with the general approval of the students themselves.

For many reasons I would prefer to adopt the German university method and allow every properly prepared student to enter and remain as long as he wishes, without any further restriction than that, when he desired to graduate, he should pass a thorough examination in *all* the studies for a degree. Some day this plan can be adopted; but it is the unanimous opinion of the faculty, that, considering the average proficiency of the students now in the school and the training they received before entering it, considering also the present condition of education in this country, the time is not ripe for this step in the Mining School, although I think that in some other engineering schools such a course could be adopted with advantage.

Coming now to the question of the faculty of the Mining School,—it seems that no other considerations should govern, in the selection and retention of its members, than the question of their fitness for the positions they are to occupy and their ability to carry out the general plans of the school. Since the school is supported by the State of Michigan, it should be absolutely free from any sectarian or political bias, and no questions of that kind have thus far been considered in the selection of any of its officers. Should the time ever come when belief in any particular party, creed, or denomination, should be considered as an essential requisite for either an instructor or pupil in the Michigan Mining School, unless the history of education, as shown in other institutions throughout the land, is not read aright, that time will see a retrograde movement of the school and a weak and insufficient faculty.

One of the first requirements made of the members of the faculty should be their ability to impart their knowledge to the pupil. They should have the genius and the art to consider his previous training, to place themselves on the same intellectual level with him and render the principles of the subject taught clear and easy to be understood, giving the pupil a mental discipline in requiring him thoroughly to master those principles and to apply them in practice. It is safe to say that the leading minds in any walk in life are not those who have merely memorized its fundamental principles, but those who not only *know* the principles, but also know *how to apply* them. To give such an education in mining engineering as well as to fit its pupils to be both intelligent and self-reliant workers, is one of the main aims of the school; and the members of the faculty have been chosen with that object in view.

In selecting teachers of eminence from other schools, this question always arises:

Can the teacher adapt himself to the changed conditions that surround him in a school new to him, and meet the needs of the latter and its students? Rarely, if ever, can success come to anyone in a new position, unless he can remould himself sufficiently to harmonize with his environment,— a process that requires great care and labor if the change of location is made at a time when one is well on in middle life. If one can retain that power of adaptability, then success can be considered almost certain. This requires that a teacher should familiarize himself with the needs of the region in which his school is located, the constituency from which its pupils are drawn, the nature and thoroughness of their preparation, their home surroundings and culture, their intellectual ability, their prospective work and station after graduation, their habits, etc. The instructor should then adapt his teaching to the previous training of the pupils under him, and from that point lead them on, by methods applicable to their intellectual capacity, to the point they ought to reach before they commence their life work. Every teacher must first place himself on a level with his pupils, if he wishes subsequently to lead them to or to place them on a higher plane than the one they previously occupied.

A second important point is, that the members of the faculty should have both theoretical and practical knowledge of the subjects that they teach. This has rendered their selection in a school like the Mining School a matter of extreme difficulty, owing to the fact that the greater portion of the older and more experienced teachers in this country have been theoretically and not practically taught; again, it is a notable fact that practically trained men who have not taught before, but who have attained to years of experience, as a rule have neither the patience nor the art to instruct pupils in their specialties, although there are some notable exceptions.

To teach and to teach well is an art that requires as much practical experience and knowledge as is required in any other professional work, and it is a serious mistake made in many institutions to think that only a practical knowledge of one's subject is necessary.

It is asked, in looking for new instructors at the Mining School, that they should have a good deal of experience in practical work and in teaching, as it is believed that the successful teachers must have experience on both sides. They need to be thorough disciplinarians, accurate and neat in their work, and to insist that their pupils must be thorough, orderly, and correct in their studies.

A further requirement, and one of the greatest importance, is, that the members of the faculty should be leaders in their respective departments; that they must not only know what others have done, but they must also be able to make original investigations and publications in their specialties. Men of this class have a strong stimulating effect on the students. They, of necessity, not only keep up with the times in their subjects, but are also in advance; and whatever reputation they may attain by their work is a direct gain in reputation for the institution with which they may be connected. I believe it to be an undisputed fact that the commanding position of the leading institutions in the United States is due solely to this, that their faculties have been, at least partly, if not largely, composed of original investigators and thinkers.

Of past teachers in the school, too much credit cannot be given to the

work done by Edwards, Keller, and Haynes, in the development of the institution and in their willingness to work for its interests; and it is ever intended that the teachers shall be painstaking, hard working, unselfish men who are ready to devote themselves in every way to the good of the school.

On the whole, the Mining School has been greatly blessed in its Board of Control being composed for the most part of successful business men who understand the conditions under which any business can be successful, if at all. These gentlemen have apparently tried to do all they could to advance the school, devoting their time and money freely to forward its interests.

The president of the board, Judge Jay A. Hubbell, originated the bill under which the school was organized, has given land, time, and influence to make it what it is. Hon. J. M. Longyear has in the same way given money freely to aid poor students and in various other ways has done the institution great good, while the labors of Messrs. Kidder, C. E. and J. N. Wright, Pope, Chadbourne, Senter, and others ought never to be forgotten. The school can be truly said to have been most fortunate in its Board of Control, and all praise is due to that body.

The equipment of the school has been planned with this idea,—to provide the means for each student to be occupied his entire time and not to be obliged to wait. This has been done not only in the interest of good teaching, but also in the interest of economy; *i. e.* equipment is made to take the place, to a large extent, of instructors. In other words, a well equipped laboratory with the materials and apparatus properly arranged, can be carried on with far less assistance than one poorly equipped and with its materials difficultly accessible. Money put into good apparatus and teaching material is a permanent investment lasting over many years, while the money paid to assistants lasts for one year only and must be renewed on the next. It is claimed here that, wherever practicable, it is better to put the money into additional apparatus rather than into additional assistance. I know that, were it not for this plan, our teaching force would have to be greatly increased in order to do the work that is now done. This can be readily understood when it is realized that the laboratory courses in mineralogy and petrography have far more students here than they have in Harvard, Johns Hopkins, or the State University, and the same may be said of many other laboratory courses.

The library has been especially selected for the technical and other needs of the school and numbers some 10,000 volumes, while the reading room contains all the important and technical periodicals that bear on the subjects taught in the school.

The physical laboratory is well equipped with the special apparatus needed in the student's practical work, like galvanometers of various kinds, calorimeters, resistance boxes, spectra goniometers, spherometers, balances, bridges, sextants, sonometers, polariscopes, electric motors, photometers, etc., etc.

In chemistry there are two laboratories; one for general chemistry and qualitative analysis, and the other for quantitative analysis. These laboratories are well equipped with gas and water supplies, with filter pumps for each student as well as with all the needed modern apparatus for chemical work, including thirteen analytical balances, spectroscopes, Hempel's and Bunsen's apparatus, etc.

The assay laboratory is fitted with ten large crucible furnaces; eighteen

Brown's muffle furnaces; sixteen Hoskins' gasoline, crucible, and muffle furnaces; Blake's and Gates' crushers; large buck plates, large and small mortars, sieves, etc., as well as six pulp scales and five button balances. The mill and ore dressing works are well equipped with one 650-pound three-stamp battery, for wet or dry crushing, furnished with copper plates; one Blake crusher; one sample grinder; one pair of rolls; one amalgamating pan; one settler; two jigs; one Calumet separator; one spitzkasten; one Frue vanner; apron tables; screens; precipitating tanks; and settling tanks sufficient to enable the student to check all his results by assay.

For metallurgical purposes there has been erected a 7x10 reverberatory roasting furnace, which will enable the students to treat their concentrates and refractory ores.

The mechanical laboratories are well equipped with apparatus for the scheduled work. Among the instruments on hand are one Crosby, one straight-line, and one Tabor indicator, with full complement of springs; Heath stop-watch; eight polar planimeters; Ashcroft revolution counter; Schaeffer and Budenberg tachometer; lazy tongs and other reducing gears; Ashcroft pyrometer; set of Green's standard thermometers; Heisler and Barrus calorimeters; water meters; Ashcroft boiler test-pump; steam-gauge testing machine, etc. There are also on hand a number of cut models of injectors, etc., for illustrating lectures. The mechanical laboratories are further provided with a 100,000 lb. machine fitted for tests in tension, compression, cross breaking and shearing; a Thurston autographic torsion machine and Olsen 2,000 lb. cement tester and an Ashcroft oil testing machine. There are also on hand a Henning electric contact micrometer for measurement of extension; an electric micrometer for compression tests; a B. & S. vernier caliper and several micrometer calipers; a 24-inch by 16-foot New Haven Tool Company's engine lathe, Prentice screw cutting lathe, and two hand lathes; a 34-inch automatic-feed Blaisdell drill press; a 20-inch Lodge and Davis drill press; a 16-inch Gould and Eberhardt shaper; a Whitcomb planer of capacity 8x2x2 feet; a Brainard No. 4 Universal milling machine; two wet and two dry emery grinders and several smaller machine tools. The assortment of chucks, taps, drills, reamers, and general tools is very complete. For practice in pipe fitting a separate bench has been provided, and a complete set of pipe tools and fittings up to two inches inclusive is in stock. The pattern shop contains two Clement wood lathes; a 33-inch Fay band saw; Beach jig saw; emery wheels and grindstones; Pedrick and Ayer gouge grinders; a very complete assortment of hand tools and appliances; a 9x9 inch New York Safety vertical high speed engine; a 3x12 Buckeye automatic engine; a 12K Edison dynamo; a 2 HP Sprague motor; several Ayrton and Perry ammeters and voltameters; Bergman ammeters, storage cells, etc.

After the close of the summer term of 1894, the shops will be removed to a building designed for their especial use, and the equipment of machinery and tools will be materially increased. Provision has also been made for an electrical laboratory, which will contain not only the apparatus needed for electrical measurements, but also a complete dynamo plant sufficient to familiarize the student with modern practice in arc and incandescent lighting.

The Mining School has a complete outfit for its work in plane, railroad, and mining surveying, including one plane table from Buff and Berger; nine transits—three from Buff and Berger, three from Heller and Brightly, two from Gurley: five Burt solar compasses; five magnetic compasses;

fifteen Locke hand levels. In addition to these more expensive instruments, the school owns the necessary number of mining lamps, chains, steel tapes, poles, rods, etc. Two of the transits are adapted to mine as well as surface work.

The laboratories for crystallography, mineralogy, petrography, and geology are well equipped and prepared for both elementary and advanced students. Among other material these laboratories have the following:

Crystals and crystal models	4,104
Mineral specimens	27,310
Rock specimens	11,575
Thin sections of rocks and minerals	3,000

Also thirty-eight petrographical microscopes with accessories, spectroscopes, goniometers, polariscopes, etc.

The main building is 109 feet by 53 feet, with a wing 37 feet by 25 feet. A well appointed stamp mill and ore dressing works, a small metallurgical building, etc., complete the structures now used by the Mining School.

A large building for the accommodation of the mechanical, electrical, and mining engineering, the drawing and surveying, has been erected and will be completed in 1894, while the interior of the main building will be remodeled to meet the increasing needs of the school.

It was early decided that, as the Michigan Mining School was the only institution of higher learning in the Upper Peninsula of Michigan, the closest possible relations should be maintained between it and the various high schools, not only in the Upper Peninsula, but throughout the State. It was thought that this could best be done by trying to remove one cause of weakness in the high schools,—the leaving of pupils before graduating. It was attempted to remedy this, so far as practicable, by taking the pupil directly from the school and upon the certificate of the superintendent or principal. It was hoped that this would not only cause the pupils to remain in the schools until graduation, but also strengthen the teachers in inducing the Boards to develop their schools. Wherever it has been seen that any change would benefit the schools, it has been adopted; and the Mining School is ever willing and anxious to coöperate with the public schools in all that will assist and aid them.

Besides endeavoring to assist the public schools, the Mining School found others to aid; *i. e.*, worthy young men who had spent a number of years in practical work and whose only hope for a higher education lay in the Mining School. For them the requirements were made to cover only those studies that were essential to the subsequent course in mining engineering; but, in order to prevent pupils of the high school from taking advantage of this and leaving before graduation, it has been expressly stipulated that all students under twenty years of age who enter by certificate, shall have completed some one of the courses in a public school that shall also cover with other studies the following: arithmetic, metric system, algebra to quadratics, plane, solid, and spherical geometry, physics, astronomy, and book-keeping; the same as is required for pupils twenty years of age or over.

For preparation for entrance to the Mining School, teachers are urged to give special attention to the proficiency of their pupils in the use of the English language and the special subjects required for admission. Particular attention should be given to practice in the solution of practical

problems in mathematics, so that the pupil may be familiar with and skillful in the use of mathematical principles, as the solution of problems for the student of mathematics is his laboratory work. Thoroughness in the work done is to be aimed at rather than the quantity.

In speaking of the courses of instruction, attention may again be called to the fact that the Michigan Mining School was organized to prepare men to assist in the practical development of the mineral wealth of the country. The school is therefore not intended to give its pupils the ordinary general and theoretical education afforded elsewhere in the usual courses in mining engineering; but, on account of the special location of the institution, it aims to unite both theoretical and practical mining work into one harmonious whole. In other words, it is intended, in connection with the school, to teach students the principles they will need for their future life work and to give them practice in the application of these principles in the mill, mine, laboratory, and workshop, so that on graduating they will be able to take their places as productive and useful members of the community to which they belong. The Michigan Mining School is not intended to be a scientific school in the ordinary sense, nor to concern itself with general education, but to be in the true sense a professional school, in which all its pupils are not studying to obtain an education for the purpose of mental cultivation alone, but to obtain an education and practical training in a profession which they expect to follow on leaving the school. This can be done more easily here than almost anywhere else, since the sole object of the Mining School is to train men in mining engineering or in such specialties as they may need in connection with the development of the mineral wealth of the State and nation.

In all other schools in the United States, the mining engineering course is carried on in connection with other courses and is often looked upon as a subject of less importance. This usually results in a crude and insufficient instruction, the main object of which seems to produce anything except mining engineers. How much real mining engineering can a few students learn when they are sandwiched among hundreds of students, where the aim of the latter and of their teachers is to give them a training that will prepare them to take up the study of law, divinity, medicine,—in short, everything except mining engineering? Students may, under such conditions, learn well many subjects, but mining engineering is not one of them. We claim that it is just as impossible to give proper training in mining engineering without access to a mine, as it is to train a properly equipped physician without hospital practice, a clergyman without putting him into the pulpit, or to train a farmer in the methods of practical agriculture among the "bulls" and "lambs" of Wall street. Men who are able to do any good work must either obtain a practical knowledge of the subject they are studying prior to or during their school life, or else they must learn it afterwards at the expense of their employers. Men are graduated all over this country in courses in mining engineering that have never seen a mine, and they are no more fitted for mining engineers than would be a city boy for a practical farmer, when he had been taught agriculture in the midst of a crowded city and had never been outside of it. They may, and generally do, have ability enough to overcome their defective education; but no one can claim that this is the best way to obtain an education for such work. A certain institution in the United States, foremost in its mining engineering course as well as in

its other courses, graduates its students in mining engineering without requiring them to have ever seen a mine or to have any practical knowledge of its work. Such graduates know as much about mines and real mining as a blind man does about the appearance of the moon; their knowledge is derived from second hand information only. That students of mining engineering should have a practical knowledge of mines is recognized by many institutions in requiring their students to spend a few weeks or more in some of the mining districts, and also in the location of some of these schools, like the Michigan Mining School, in the midst of the mining regions, which places them in a mining atmosphere and imbues them with a mining spirit.

When first organized, the school had a course two years in length, leading to the degree of bachelor of science; but as soon as it was practical, this course was changed to one three years long and higher requirements for admission were demanded. This course, in its amount of required work, was the equivalent of the four years' course in most other institutions and was introduced in the fall of 1889. The result was to diminish the number of pupils in this little institution at the commencement of its fourth year, but the rapid increase of pupils the following year showed the wisdom of the change made. In other words, the school in the end greatly profited by its stand for higher and better education.

As the result of its experience, it was thought wise again to advance the requirements for admission and enlarge the course of instruction in the fall of 1893. This, as you will see, has conspired to reduce the numbers to some extent, although other factors have united; such as the present business depression and the recent establishment elsewhere of a large number of mining engineering courses, owing to the success attained by the Michigan Mining School.

The change in the course has led in this school to the establishment of two courses; one for three years, leading to the degree of Bachelor of Science; and the other for four years, leading to the degree of Mining Engineer.

The course of instruction now occupies some forty-five weeks each year, and takes from seven to nine hours a day in the field, mill, mine, laboratory, lecture or class room, while the special preparation or study has to be done outside of these hours. The number of hours given for each subject shows the relative amount of work in each one, and I think it will be hard to find a much better course in this country or one more adapted to train the pupil so he will be prepared to start upon his future work.

In the course extending over three years there are 5,490 hours of required work; and in the four years' course, 6,935 hours of required work in the mine, mill, laboratory, or class-room. This is exclusive of the time spent outside in preparation. The number of required hours each year varies from 1,715 to 1,745.

THE THREE YEARS' COURSE.

Mathematics	452
Physics	284
Drawing	508
Chemistry	963
Assaying	105
Metallurgy	182
Mechanical Engineering	783
Surveying	555
Mining Engineering	472
Mineralogy	336
Petrography	168
Geology	410
	5,490

THE FOUR YEARS' COURSE.

Mathematics	452	or	452
Physics	284	"	284
Drawing	508	"	508
Chemistry	1,053	"	1,375
Assaying	105	"	105
Ore Dressing	222	"	222
Metallurgy	617	"	519
Mechanical Engineering	1,319	"	1,319
Electrical Engineering	112	"	84
Surveying	555	"	555
Mining Engineering	598	"	472
Hydraulics	56	"	56
Mineralogy	336	"	336
Petrography	168	"	168
Geology	550	"	480
	6,935		6,935

The large number of hours is due to the amount of practical work in the course, since it is not believed that any good can come from memorizing pages of text book, and lectures in any science, when the principles are not actually applied by the pupil so that the knowledge acquired becomes part of himself, as it were. The learning must be through the experience and application of the principles, or else the principles will be forgotten. Without actual laboratory or field practice, it is far better to memorize the speeches of Webster or Demosthenes than pages of physics, chemistry, mineralogy, or geology. Whole pages of dissertation on the art of carpentry will not enable one to drive a nail straight, until the hand and eye have been educated to do it through practice. As pointed out before, this is the second time in its short history that the Mining School has advanced its course, and the fourth time it has increased its requirements for admission. Whether the present change and advance of its course will continue to diminish the number of pupils or not, is yet to be ascertained; but so far, even with the change, there are only eight less than at this time last year.

It will, of course, be understood that, in giving any account of the instruction, but little idea can really be given of the vast amount of varied work accomplished by both teachers and pupils—work due not only to the course, but also to the natural interest and spirit in the work and to the mining atmosphere in which the school is located.

The Mining School has hoped to aid the teachers in its vicinity or such others as might wish to take their vacation in a region so delightfully pleasant in summer as the Northern Peninsula, by throwing open freely its laboratories and placing as much of its practical work in the summer time as possible. In this way a teacher may, during his vacations, acquire a practical knowledge of field geology, surveying, shop work, etc. Teachers and others who desire to do so are encouraged in every way to take advantage of the special laboratory facilities the school offers. The whole arrangement of the apparatus and collections is for actual practical use on the part of the students and not for show.

While you all understand that much of the education given at the Mining school is technical and not of interest except to those who expect to apply it, yet much of the work like mathematics, drawing, chemistry, mineralogy, petrography, geology, surveying, etc., is of a kind that belongs to general education—to the teacher's education; and the instruction is of a kind that will give the teacher the necessary practical and theoretical knowledge of these subjects that he may wish to teach. While the Mining School does not pretend to be a school of general education and does not in any way interfere with the Normal School, the colleges, or the State University, it does believe that an education that will develop the judgment, the reason, and the observation, that will expand the man, make him a good and useful citizen, can be obtained just as well, if not better, from instructing the pupil in subjects that he will use, as in subjects he will not use: the education depends far more upon the method and the interest the pupil takes than upon the subject.

Let me again say that there is not the slightest rivalship on the part of the Mining School with the State University, the colleges, or the Normal School. All have their place—not one has the special equipment or means or location to do the work of the Mining School; and, on the other hand, the Mining School has not the slightest desire or intention to do the work that belongs to the other educational institutions of the State. It is hoped that every one of them may prosper, for the Mining School believes that their prosperity is hers.

The Mining School asks your aid in sustaining her and enabling her to reach the highest standard possible. She asks you to send to her such good pupils as you may have who desire such an education as she can give. All those who wish a different education, no one expects you to send to the Mining School; their proper place is elsewhere.

The Mining School has directly stimulated and aided the public schools of the Upper Peninsula, and in so doing it has been of direct benefit to the State University. This has been done by the graduates of the Mining School proving locally the advantage of an education. This has reacted upon the people, causing them to take more interest in their schools and in education. As a direct result the State University has over double the number of pupils from the Upper Peninsula that she had the year before the Mining School was established, and has six or more accredited schools in that district, when in 1886 she had none. In view of the efforts made by the Mining School to coöperate with the public schools and with

the other educational institutions of the State, will you not do what you can to aid and sustain her? The success of the Mining School does not in any way detract from or injure any other educational interest; it only helps and strengthens them.

You never find the people or legislators from the Upper Peninsula opposing appropriations or aid to any of the educational institutions situated in the Lower Peninsula—we are all proud of them. May they ever prosper and stand amongst the highest in the land! But, on the other hand, will you not give aid and comfort to the youthful institution situated upon the thumb that Michigan inserts into Lake Superior's pie; for the standard of education of the Northern Peninsula is largely dependent upon the success and work of the Mining School. The University, the Agricultural College, and the Normal are too far away directly to affect the standard; but, if the Mining School can do what it is trying to do, the educational stimulus it will give to that region will cause a four-fold return to the educational institutions below the Straits of Mackinac.

Aid and comfort us in the efforts that we are making to place the Michigan Mining School as one of the most thorough and practical institutions of its kind in the land.

RECESS.

Music—Solo by G. R. Curtis.

MISCELLANEOUS BUSINESS.

Dr. Hinsdale, chairman of Committee on N. E. A., reported: We met yesterday and appointed Prof. Strong and Supt. Pattengill as a sub-committee to carry on correspondence regarding transportation, and also instructed them to proceed to Duluth and make arrangements for the headquarters of our State representatives. This committee cannot go without some expense and, as they go in our interest, I suggest that the necessary amount be appropriated from the treasury of our State association.

SUPT. WHITNEY:

I move that this expense be defrayed from the funds of the association. Carried.

SUPT. PATTENGILL:

The Michigan educational exhibit at the World's Fair demonstrated the fact that there could be much improvement along the line of school exhibits in this State. Many of our schools were not used to that sort of work. Therefore a call was issued somewhat late in the fall asking the schools to send in some work for exhibit in connection with this association. I am pleased to call attention to the very excellent exhibits which are seen in the three classes, rural, village, and city schools in the rooms adjacent to this hall. It makes me proud of my State to know that such work can be done in all classes of schools. The exhibits have excited a

great deal of interest, and very many have expressed their high appreciation of the valuable hints which they have received from the examination of the display. I am not sure of the educational value of school exhibits in every respect. I am sure, however, of this thing; it interests the people in the schools and the work of their children better than could be done in any other way. I have appointed committees on map drawing, language, kindergarten, penmanship, and general utility of exhibits. The members of this committee are not to select the best, for the exhibit is by no means competitive. They are to commend where commendation is merited, and criticise where criticism is needful. They are to offer suggestions as to future exhibits, ways of putting up the exhibits for the best display, suggest rules that should govern the exhibits so that they shall show the true work of the pupil and not the teacher, and feel perfectly free to offer any suggestions correlative to the subject which they may deem best. These reports will then be carefully collated and from them arrangements be made for next year's competitive exhibit. It has not been decided what is to be done with many of the exhibits now here; but if they could be sent out among our rural schools, they might do good missionary work. In this way we can help our teachers to do better work and get into it the spirit spoken of by Judge Draper. I hope as many exhibits as possible may be left and I will send them where they will do the most good. I am very thankful to the commissioners and teachers who responded so heartily to the call and have helped to make this exhibit the success which it is.

Supt. Richards, chairman of the Committee on Resolutions, reported as follows:

Your Committee on Resolutions in behalf of the State Teachers' Association assembled, beg leave to give expression to the following sentiments:

First, We extend to the following our heartfelt thanks for their efforts to secure the present successful session of the association; to President W. H. Cheever and the executive committee for their preparation of so excellent a program; to Supt. Hoyt for perfecting local arrangements; to the high school choir, the boys from the Industrial School, and the pupils from the School for the Blind, for inspiring music; to hotels and railroads for reduced rates; to President Gorton of the Michigan Agricultural College for bouquets and flowers; to the people of Lansing who, through their mayor, Hon. A. O. Bement, extended a hearty welcome to the teachers of Michigan; to Dr. and Mrs. Temple for opening their beautiful home in which to hold the reception in honor of our State Normal's new president, Dr. Boone; to the State Board of Auditors for granting us the use of the capitol building; and to the board of trustees of the Congregational church for their church.

Second, That we strongly endorse the aggressiveness of our State Superintendent in suggesting ways and means by which our public schools may be made more efficient, particularly in regard to the changes proposed in the examination of teachers, the establishment of township and county rallies, the effort to put a library into every schoolhouse of the State, and in his earnest efforts to secure effective legislation in regard to general school interests.

Third, That we look with approval upon the action of the College Section in taking a practical step toward the suppression of the objectionable features of intercollegiate sports, especially pertaining to the matter of base ball and foot ball.

Fourth, We regret that the association's suggestions of last year with reference to the length of time given to papers and discussions has not been observed in the present session, and we again express our judgment that papers should be limited to twenty minutes and discussions to ten minutes.

Fifth, We respectfully recommend to the executive committee the propriety of taking some action in regard to securing a suitable room in which to hold the Primary Section of the association. The acoustic properties of this hall are such and the audience necessarily so far removed from the speaker, that it is quite impossible for the ordinary lady's voice to be heard.

Sixth, We recognize the need of professional instruction and general culture by the fifteen thousand teachers of Michigan. We therefore recommend that steps be taken at once to provide additional facilities for such instruction, and urge our next legislature to establish at least one more Normal school.

Seventh, That we, as an Association, extend our kindest wishes to our worthy retiring president in his new field of labor. He has been a source of inspiration to both teachers and pupils of this State, and we sincerely regret that he has severed his connection with the schools of Michigan.

Report accepted.

A short discussion as to what should be done regarding the maintenance of the building presented by the Hackley Park Association resulted in the entire matter being referred to a committee.

President Gorton, chairman of the Committee on Nominations, reported the following:

First vice president, Prof. A. Lodeman, Ypsilanti; second vice president, Supt. N. A. Richards, Greenville; secretary, Supt. F. R. Hathaway. Hudson; treasurer, Supt. T. E. Evans, Jackson. Executive Committee—Dr. B. A. Hinsdale, Ann Arbor; Florence C. Fox, Lansing; Prin. W. A. Ellis, Detroit. Board of control pupils' reading circle—Supt. J. W. Simmons, Owosso; Supt. C. O. Hoyt, Lansing.

Report accepted.

E. C. Thompson of Saginaw, W. S. and C. T. Grawn of Traverse City, were placed in nomination for president, the result of the informal ballot being in favor of the latter.

Supt. Thompson declared himself as not believing in a divided interest and moved that this informal vote be made formal and unanimous. Carried.

Supts. Whitney and Briggs were appointed by the chair to take the Hackley Park matter under advisement and report next year.

President Cheever being obliged to leave, hereupon addressed the association with the following well-chosen words of farewell: When it was decided that I was to go out of the State, I promptly offered to resign my position as president of your association, but was told "No, you'll be coming back to Michigan. Keep the office and we'll do the work." That is exactly what has been done. Everything that has been so well arranged is due to the efficient secretary and the executive committee. It was a pleasure to me that I could come here and look into the faces of Michigan teachers and take by the hand those with whom I have been associated; and as I go back to my Wisconsin home, I shall go filled with pleasant thoughts of these days.

MISS MILLER of Saginaw, E. S.:

I have learned that in my absence last evening I was elected president of the Primary Section, and I take this opportunity to express my appreciation of the honor thus conferred upon me.

Treasurer Laird gave the annual financial report as follows:

REPORT OF TREASURER OF MICHIGAN STATE TEACHERS' ASSOCIATION, 1893.

		Receipts.	Expenditures.
1892.			
Dec. 29	Rec'd from J. A. Stewart, treasurer	$498 01	
	Paid for draft for above amount		$0 50
1893.	*Expenses incurred during former administration.*		
Jan. 28	H. N. French, Association expenses		14 89
" "	Stenographer's bill		30 00
Feb. 15	Expenses of Executive Committee in attending meeting at Lansing		28 25
Apr. 4	Moderator's bill—printing		4 00
" "	Expenses attending location of site of Teachers' building at Hackley Park		8 50
July 10	Robert Smith & Co's bill—printing		2 20
Aug. 1	Expenses attending the supervision of said building, $25.85, and dedication ceremonies, $70.68		96 53
Aug. 4	Bill of C. O. Hoyt—printing		7 00
Sept. 8	W. H. Honey's bill—express, etc.		80
" "	C. O. Hoyt's bill—mailing reports, etc.		17 85
Nov. 15	Expenses attending Executive Committee meeting		10 85
" "	Treasurer's bill—tickets and postage		3 50
" "	C. O. Hoyt's bill—printing, etc.		26 00
Dec. 26	Rec'd interest on deposits	13 40	
" 27	Receipts from sale of tickets and lecture	281 65	
1894.			
Jan. 2	Paid Hon. A. S. Draper—lecture		100 00
" "	Paid Prof. Belfield—services at meeting		40 00
" "	Expenses at meeting Dec. 26-8		
" "	Rent of church, $20.00; chairs, $1.00; pianos, $9.50		30 50
" "	Stenographer's bill, $25.00; C. O. Hoyt's expenses, $4.56; W. H. Cheever's bill, $.45		30 01
" "	Robert Smith & Co's bill—printing reports		53 70
" "	R. R. agents bill		5 00
" "	Amount on hand		282 98
		$793 06	$793 06

S. B. LAIRD, *Treasurer, 1893.*

Supt. Hoyt stated that the growth of the association made it impossible for one man to do the work well, and moved that the incoming secretary be authorized by the association to employ a railroad secretary for the coming year. Carried.

President Cheever read a congratulatory telegram from the Teachers' Association at Madison, Wis., as follows:

We send you greetings from four hundred Wisconsin teachers. May your work prosper.

T. B. PRAY,
President.

In the absence of the vice president, Pres. Cheever then placed Supt. Hoyt in charge of the afternoon meeting.

AFTERNOON SESSION, 1:30 p. m.

"THE TOWNSHIP UNIT."

SUPT. C. W. HILLS, PENTWATER.

If we believe "education to be the strongest defense of republican governments and human freedom; free education and liberal culture, the most potent agencies for securing the happiness and prosperity of a people," there is no question which should be of greater interest to adult life. Ranking at least equal to religion, politics, or commerce, it should be the work not alone of patriotism, but of enlightened philanthropy to perfect our educational saytem.

No one will deny that Michigan and the other states of the Union as a rule have been liberal in the support of their schools, nor that teachers, as a class, are faithful and conscientious in the discharge of their duties; yet many of the most thoughtful educators and statesmen are sounding warning after warning that our schools are not doing all that might be done considering the vast annual outlay—that more must be accomplished if the schools are to act as the corrective for the great flood of immigration coming to our shores, bringing Old World discontent and anarchy to our very hearthstones.

The scientist of today is earnestly attempting to economize in energy by devising means to obtain the greatest possible amount of power from the energy expended in burning a single pound of coal; and he who succeeds in inventing some method or system whereby the available power is increased, is hailed a benefactor of humanity. Should the parent, the educator, or the statesman, less than the physicist, deplore the needless waste of energy which surely results from an imperfect system poorly administered?

We can not sufficiently deplore the position taken last winter by a committee of the State Grange, which for narrowness and bigotry exceeds any thing in the history of that noble organization. Will notice also be served on inventors that they need not trouble themselves with the improvement of farm machinery, and on doctors that they need no longer interest themselves in protecting a farming community from contagious diseases from abroad, or labor to restore the sick to health? Does it not seem sad that men and women who have given their best years and most earnest thought and effort to the cause of education, should have notice of "no confidence" served upon them by a body of patrons whose resolutions are excellent evidence that they are not only neglecting education as a study, but also have signally failed to read intelligently the history of their own organization in other states and profit by experience?

When we consider the fact that the world's future history must depend to a large extent upon the work done today in the schools, especially in the schools of this young giant among the nations, should we not with greatest earnestness ask ourselves the question, "Are we obtaining highest possible results from the expenditure of energy employed?"

Let us invite parents, members of the Grange perhaps, for the sake of

their children to study the question fairly with us, working side by side until we arrive at a result.

The question admits of no temporizing, neither is it a question for the politician. If after a careful study of the history of education in this and other countries we answer "Yes, we are obtaining highest results," our opinion should be accorded respect and the question is settled; but if, as I think we would, we answer decidedly "no,"—if we agree with every State superintendent and prominent educator in Michigan since '73 and most since '61 in saying our present district system defrauds the majority of people living in rural communities and that the returns for the expenditure are not nearly what might be expected and should be required, we will see the importance of demanding an immediate change.

To an American citizen no principle of our government is dearer than that of "equality before the law." The State recognizes this principle in the support of schools, and it is unquestionably the intent that taxation shall be uniform and all children shall be extended equal privileges educationally; yet there has not been a report from the State department of education which has not shown the most ridiculous inequalities in the cost per capita of maintaining school in the same township.

While the children of the wealthier districts may have the privilege of attending a good school in comfortable buildings nine or even ten months, the poorer district beside it is attempting to economize by shortening the term and letting the school to the lowest bidder. Will any one attempt to deny that the child in the poorer district should have the right to attend school as long and to as good a teacher as the child in the more favored district? Is not a system which permits such injustice, nay, under which no other conditions are possible and under which thousands of the children of the State are prevented from attending at all, robbing children of an education and the State of educated citizens?

Select any county you may; it will not be denied that there are many districts in which school is held only long enough to draw State money. And I need not seek far to bring evidence that the auction plan is in high favor in some country districts. In such schools grading and a reading course are almost an impossibility and real progress slow; yet ridiculous as as it may seem, these are among our most expensive schools; and we may add that, in such districts, children are frequently compelled to go much farther to their own miserable school of short term than would be necessary to attend a good school, simply because the desirable school is not in their district. True, they can be set off into the other district. So can they as easily be set off to escape taxation when a new school house is to be built in their own district. Cases of the kind and disputes over school house sites and district boundaries are too common to excite remark.

The conditions in the poorer, more sparsely settled districts are made much worse by the impossibility of electing a progressive board, for it is one of the worst features of the district system, even under the best conditions, that it "practiceth that economy that tendeth to poverty." For the avoidance of district censure, each board feels obliged to run the school a shade cheaper than its predecessor, thus preventing the purchase of apparatus and needed supplies even in the wealthy districts. This tendency is, of course, much greater in the sparsely settled districts; and were the Hon. Wm. T. Harris a resident in such a community, it would be impossible to

elect him a member of the board unless he would first pledge himself not to hire a teacher at living wages or "squander the district money on needless brooms or a dictionary." The inevitable result is that progressive men are not selected even when such can be found in the district, for no honorable man of liberal education would for a moment consent to be a party to robbing little children of their rights. Hence the more ignorant are frequently selected, or the childless wealthy man whose sole interest is to keep down taxation; and lack of patriotism, thorough selfishness, and poor business methods are the most noticeable characteristics of most district schools.

I do not mean to disparage school officers in this State; I believe they are, for the most part, men who honestly desire good schools and some of them are broad minded, well informed men. The fault lies not with them; they are the victims of a system which compels a weak district to bear the full burden of excessive taxation, and are elected by taxpayers who, intuitively feeling the injustice of paying five or six times the per capita tax of the adjoining district, in their desire to economize, force a board that is responsible for nothing but financial management to this short sighted, selfish policy.

It is the universal testimony of State superintendents and other prominent educators in states where the township unit has been most fully tested, that responsibility for the condition of the school is as well fixed as for financial management; that the tendency is to elect the best and most progressive men in the township; that it is much easier to find five able men in a township than to find twenty-five; that the schools are better equipped, teachers better paid; length of school year is longer and taxes less; that all children in the township have equal educational advantages at the same price.

Selecting from the replies I received from State superintendents and others, a few of the many advantages resulting from the township system are as follows:

1. Under the township system the affairs of the district are managed with business system.
2. It equalizes school taxes in towns.
3. A more efficient and progressive class of school officers are elected and parsimony and extravagance are alike controlled.
4. To the inhabitants of all communities it guarantees the privileges now enjoyed by residents of graded school districts.
5. Fewer schools, better wages, better teachers, weak schools annexed to others.
6. More and better supervision by the commissioner and board of directors.
7. Increases the dignity and usefulness of the office of commissioner; lessens anxiety over petty details, enabling him to supervise more systematically and intelligently.
8. Better facilities for grading country schools, establishing uniform course of study, graded course in reading, uniformity of text books.
9. Advanced or high schools can be established at convenient points, open to all pupils of the township passing eighth grade in lower schools.
10. Thus the "educational ladder" would cease to be a theory and become a practical reality, and the rural schools become a part of a per-

fectly harmonious, efficient system, instead of straggling, struggling nonentities.

11. Cheaper, better schools; lower taxes; longer terms for less money.

[Michigan Report '88, p. vi., refers to a township organized under the township system, where the average length of term was nine months, at an expense per capita of $13.71, and compares with a township retaining the district system where the length of term was only four and one-half months at an expense per capita of $14.80.]

12. More systematic and satisfactory methods of making reports, guaranteeing more reliable statistics.

13. Greater dignity would attach to public education in common schools of the State, public opinion would have greater respect for it, and public pride would be aroused.

14. Troubles of trustees in making out and correcting tax lists are abolished.

15. District boundary quarrels are impossible.

16. The laws regarding compulsory attendance could and would be enforced.

17. More permanence in the teaching force.

18. As a result better and higher grade teachers.

19. Schools are in all ways better equipped with apparatus, books of reference, etc.

20. Every school will have its reading table, library, and established course of reading.

21. "Where there are conflicting opinions such as are liable to occur between parent and teacher, the arbitrator or chief officer had better be a non-resident of the community. It is hard for a trustee to oppose a neighbor with whom he is to live; so, frequently the teacher becomes the victim of injustice and lack of support." (I am inclined to think this is a trait of human nature in Michigan as well as Vermont.)

22. The township system always results in a general uplifting of educational interests of a State: and with the system general in our State, our schools would rank first in the Union.

In corresponding with more than one hundred prominent educators, including all State superintendents whose opinions were unknown, I have been unable to find one who would say a word in defense of the district system, nor have I found a state in which the Grange or any other fraternal or political organization oppose the township district.

The opposition never has been systematic or organized, but always has come from individuals of quite dissimilar types. First, the wealthy who, in shameless selfishness, resist any change whatsoever its merits, if they scent any possible increase in taxes. It is easy to make these men firm friends of the system by showing the truth to be that the "township unit" always *reduces* taxation after first two years and frequently the first. This is easily done by the statistics of our own and other States. The pocketbook argument always wins with this class.

The second source of opposition is the extreme conservative who, with face turned to the past, a worshiper of "has beens," answers all arguments with "Let well enough alone." As it requires many years of custom to produce the conservative, this type yields not to argument. Only after years of successful use, will this type cease to be croakers and mourners for the "good old days of the three R's, the pine slab seat, the

shake floor, the invigorating birch, and all the other beatitudes of antiquity. What avails it to prove to such that not one prominent educator within the United States fails to urge the change! Far from thinking that experts who have given their lives to the study of educational problems should be heeded, he still mournfully repeats, "Let well enough alone." His case is hopeless. From long gazing on the past, he finds it impossible to "right about face" and keep step with progress; and, remembering what the poet says about "one convinced against his will," we leave him, trusting that, although he be Esquire A. or Rev. B. or Dr. C. American manhood and womanhood is today too intelligent to be much influenced by such human ravens.

There is another class, the uninformed who, with utmost honesty, say "The schools should be kept nearer the people." In reply it may be said that the township is the smallest unit in the civil system, which renders it very desirable, for the sake of uniformity alone, that it should correspond with the smallest unit of the educational system. Why is it more important to have a separate organization and board of three school officers for each school in the country than in the city? If the same plan were used in Detroit, it would require about five hundred trustees to supply the schools with offices; and with each board acting its own pleasure in regard to hiring teachers, adopting text-books, and all other matters, the result would be chaotic. It is undoubtedly true that the superiority of the graded schools over the district schools, arises from the economy of system and business method over the waste of district school administration. Why are not the schools organized under the township system and conducted with system according to best methods, its board elected by the people of the township, as near the people as under our abominable district system? What advantage is there in maintaining an army of more than 30,000 school officials in Michigan, each with different ideas and ideals, and with no system or organization? What advantage is it that each school in a township is working independent of all the rest, frequently, as in the case of one of the schools of Elbridge, Oceana county, exacting exorbitant tuition ($2 per month) from those unfortunate children who, having no school in their own district, would, if they could, gain an education by attending this school? How much further from them would the people of Michigan remove their schools if, by adopting the "township unit," they were to reduce the number of school officials in the State to 10,000; or if, by intelligent management, all the schools in a township were made as nearly equal in excellence as possible, and children were allowed to attend that most conveniently located?

There is no doubt in the mind of any teacher that, while the term "near the people" is pleasing to the popular ear, the schools have not been benefited by the "nearness," nor do the patrons manifest the readiness to furnish needed supplies that one would expect from said "nearness." I think few of experience in the school room have ever heard of a case where the rush of intensely interested patrons, in their zeal to encourage and aid the schools "kept near the people," has seriously interrupted classes; and in most district schools we may venture the opinion that one rickety chair will accommodate all comers and yet survive four generations of scholars.

Historically considered it may be well to remember that township government, in America, originated from the exigencies of frontier life in Massachusetts, and that for 150 years, Massachusetts schools, the best in

the colonies, prospered under the township system; but in 1789 a law was passed permitting towns to divide themselves into districts. This law, so fraught with evil to the intellectual development of a people, Horace Mann declared to be the most unfortunate law on the subject of common schools ever enacted in the colonies. Not only did this law work ruin to the Massachusetts schools, but, being initiated in all other northern states admitted before the civil war, its injurious effect can never be estimated. After 60 years of experience with this ill advised system, the sentiment in Massachusetts, influenced by Horace Mann, Page, and others, was for a return to the township system; and a permissive law was passed in 1850. In 1861 the reform had become so general that it was required by law that a vote be taken every three years for or against township organization, in all townships still retaining the subdistrict. In this way the subject was kept constantly agitated until in 1869, by act of legislature, the last remnant of the district system was abolished. In our own state since 1861 the subject has been much discussed. In that year a bill was presented to the legislature, but failed to pass to a vote; since then the ablest men in the State have worked faithfully for this reform and, though many bills have been presented and failed of passage, substantial progress has been made. In 1883 the township of Maple Ridge, Alpena county, obtained permission to organize on the township plan. Since then other towns in the same county encouraged by her progress, have sought and obtained the same privilege. In 1891 the privilege was extended to the upper peninsula. It now remains to secure the extension of this act to the entire State, which can be done in '95 if, as teachers, we are loyal to the educational interests of our State.

In the forty years that have passed since the question was first raised in Michigan, the leaders have seen the importance of the question; but the rank and file have yielded little assistance, for they did not inform themselves. As a result, progress has been slow, as in all reforms; perhaps in this case unnecessarily slow. Massachusetts won the whole State in twenty-nine years, but in that case the subject was pushed vigorously from the first.

The time is now ripe for vigorous concerted action in this State. I believe that, if each commissioner would select the township in which the conditions are most favorable, and in that township get the people thinking on this subject, our next legislature would receive many petitions requesting the privilege of organizing under the township system, and the act of '91 would be extended to the entire State.

Meantime the state educational papers should keep the matter hot before the teachers, and all county and local associations should discuss the question fully. Get the district teachers enlisted and make free use of the local papers. We shall not find the people unresponsive; they desire the best possible return for their money and will quickly yield to such a campaign of education.

Let us, members of this association, pledge ourselves to take a personal interest in this reform, feeling that we are engaged in a noble work, willing to do all in our power to put down a system which is wholly wrong. Let us feel that we are working for justice to little children—for the well being of our country.

Below are some of the sentiments expressed by various educators in reply to a circular letter sent out by Supt. Hills, reading as follows:

DEAR SIR—That I may present a strong and fair paper on the "township unit system" at our coming State Teachers' Association, will you, as an educator, kindly answer the following questions:

1. What are the chief favoring arguments?
2. What are the adverse arguments?
3. Is it in use in your state? If so, does the Grange or Alliance support it?
4. What are the chief defects in the district system?
5. Have I permission to publish your answer?

This matter has been fought by the Grange in our State. All school men of the State wish for the adoption of the "township unit system."

Thanking you in advance for your kindness and enclosing stamp for reply, I am,

Sincerely yours,

C. W. HILLS.

JOHN H. BROCKLESBY, Superintendent Public Schools, Hartford, Conn.—I can only answer your letter by saying that the district system, so to speak, has entirely gone by; or, in other words, has outlived its usefulness. We are coming to the point in Hartford where, I trust, at an early day the district system will be abolished. In the neighboring cities of Bridgport and New Haven they have the consolidated system, and one tax supports all the schools, in addition to what they receive from the State. Here we have town tax and ten different district taxes, together with the usual State support. The result here is that the schools vary as to their quality and their means of giving instruction, and of course, within the same town it transpires that all children do not receive the same education. This, in my judgment, should not be and seems a good reason why the district system is of no present value.

W. C. SHAEFFER, Pennsylvania Superintendent of Public Instruction—I do not have a clear idea of what you mean by the "township unit system." Our people elect six directors in each township who fix salaries, employ the teachers, levy the taxes, build the school houses. No one in this state dreams of a better system. That is one thing settled in the policy of our state.

HERVEY D. VORIES, Indiana Superintendent of Public Instruction—Answer to first question: "Township unit" makes a stronger central government and does not divide responsibility. We have better schools because this system enables us to locate and remove, when necessary, the elements which produce failures. Answer to second: I do not know of any really adverse arguments. The one commonly urged is that it fosters a one-man form of government, but when the critics are forced to particularize and point out the harm that comes from this, they are usually unable to do more than to make a show of words. Answer to third: We do not have any organized opposition to the system; at least there is no party opposition to it. There is an occasional sporadic objection raised, but no one has thought it necessary to make any defense.

MASON S. STONE, Vermont Superintendent of Public Instruction—On April 1, 1893, we passed from the district to the township unit system, therefore I am unable to speak of positive results. However there is apparent in the state a larger, broader school interest than formerly, a general revolution and equipment of school houses, and a strong determination to secure better results, better teachers, better supplies, better school houses, better management, therefore better schools. The adverse arguments are expenses and removal of immediate control, or centralization. So far as expense is concerned, the township system may be a little more expensive at first on account of the dearth of supplies and dire conditions in which the town directors found the schools. The township system will be more expensive, but more economical. In this State the Grange is a hearty coadjutor in establishing the township system; the organization is made up of our most intelligent and thrifty farming class. Opposition in this State comes chiefly from the rich who fear an increase in taxes, and from the uninformed whose motto is, "As it was in the beginning, is now, and ever shall be."

JOHN B. STOCKWELL, Commissioner of Schools, Providence, R. I.—As to the opposition of the Grange in this State, I know nothing; but I have never been led to believe that they opposed the town system. Opposition usually comes from those who know very little of the schools and are against any change. Personal contact with the schools almost invariably makes a man in favor of the town system. I have no hesitation in saying that I consider the district organization the greatest hindrance there is to the best progress of our public schools. While we have not yet abolished the districts by one single act of the legislature, we have been steadily pushing the subject to

the front, and within a few years several of the largest and most influental towns have adopted the township system. There is a strong feeling in its favor throughout the State.

C. SALMON, South Dakota Superintendent of Schools—We have a nondescript system in this state, having both the township and district plans in operation, in some instances in the same county. This of course is unsatisfactory; and, while in some of the older counties the sentiment is opposed to the change from district to township system, I think the township idea is steadily gaining ground throughout the State. Personally, my preference has been for the district plan, but my observation and experience of the township system have materially modified my views on this point. The chief arguments in favor of the township system are:

1. Uniformity of work throughout the state and much closer supervision of schools.
2. Better schools for the money expended, after the township unit has been put into operation. On the start, however, there has generally been rather more expense, say for the first year or two, and a certain amount of friction incident to the change.
3. The people in the poorer and sparsely settled localities have more nearly equal privileges with the rest than is generally the case under the district system. Under our law, the township board must furnish schooling for all the children in the township. To do this in the best and most economical way, they may establish new schools or pay for the carriage of children to and from school, or pay their tuition in some school near by in an adjoining district. I know of one instance in which a few children in an outlying neighborhood were sent to a village school and their board paid, as this was cheaper than maintaining another school.
4. Little, if any, contention about the location or removal of school houses, as no child in any case is obliged to walk a distance of two miles to school.

The chief adverse arguments are:

1. The extra cost which, as before stated, has proved but temporary, as in most townships we now get better schools for the money expended than we did under the old plan.
2. The confusion and annoyance necessarily caused by the radical change in the school system.
3. Reluctance on the part of some of the people to relinquish the right to direct control of local affairs. Sentiment on this point is changing, however, as the people become better acquainted with the workings of the township plan.

The Alliance does not, so far as I know, attack or support either system. It has not in any case been a party question.

DISCUSSION.

SUPT. PATTENGILL:

I hardly think it desirable for me to take up the discussion, as I am too thoroughly in sympathy with the paper to get up anything of a dispute. Once I did not believe in the township unit, but it has fought its way into favor in spite of my inclination against it. I have not laid so much stress upon this matter in my work, as upon some other things in which I saw I could accomplish good; for I feel that it will be a long, hard battle and it can never be won until it has the sympathy of the majority of the thinking people of the State. But I am convinced of its value by traveling in states where it is used and by talking with those who have tried its merits. I believe we should do something towards bringing about this reform in Michigan. I am satisfied that we must do something to awaken interest in the district officers. I have arranged a series of councils throughout the State for the very purpose of talking over the needs of the schools, but generally get about three officers out to any of these round-table talks. This matter must be fully and frankly discussed, and I believe that it will be accepted when it is thoroughly understood. If it will not bear discussion we do not want it.

Supt. Maybee wished to know how well the law of 1891 is carried out in the Upper Peninsula.

ANS.—In some cases it works exceedingly well, and in others not so well. Those who have adopted it are usually large cities or mining towns with a large outlying district which would not be taxed under the old law. You'll find the objectors to it largely of the "pocketbook class," whose lands have heretofore been so far removed from the schoolhouse that they have not been taxed for the schools. Under the new law they are helping to educate the children.

A question was asked regarding the comparative expense of the two systems as shown by statistics.

Ans.—I do not know. I have not looked up statistics in this matter. I know of some State reports which show a smaller rate per capita by the township unit than by the district system. In most cases, the decrease in expenditure comes from consolidation of districts.

SUPT. HILLS:

Statistics in many states show a decrease of fifteen per cent in the number of schools by the township system, showing how many unnecessary schools we are supporting. In North and South Dakota they are compelled by law to have all children attend school. In one case there were one hundred children remote from the school house who were carried to a graded school, their board and tuition paid, and yet it cost less than to support so many small schools. I am in accord with our State Superintendent in thinking that I do not want anything to do with the township system if it will not bear discussion, but am satisfied that it needs only to be fully discussed to be accepted. We, as teachers, have the interests of our schools in our hands. If we will inform ourselves on this question and act as missionaries wherever we go, we can do something.

SUPT. MILLER:

There is just one phase of this question I wish to notice. I am sorry to say that the State Grange did sit down on this question, but I do not think it was so much because of their opposition to it as because they did not fully understand it. I believe if the teachers of Michigan were more interested in the township unit system and would take hold and see that its merits are presented before the farmers' clubs throughout the State, we should see it would soon be approved by the farmers.

SUPT. MAYBEE:

I have done what I could to excite interest in this matter among farmers' clubs in my county and they have seemed to give it considerable attention.

COMMR. PALMERLEE:

I believe there is another side to this question, though I do not believe *in* it. From year to year this question is brought up before educational associations and all are in favor of it; then it is brought before our legislature and beautifully settled there. There are three or four men in the State who are opposed to it. I would move that the executive committee be requested, in making the program, to employ one of the three noted opponents of this system to read a paper at the next meeting of this association.

SUPT. HOYT:

Perhaps it would be better in putting the motion to State the names of these opponents.

COMMR. PALMERLEE:

Ex-Governor Luce, Milo D. Campbell, J. J. Woodman.

SUPT. PATTENGILL:

As Mr. Campbell is present, perhaps he will speak to us now.

MR. CAMPBELL:

Perhaps the manner in which my name has been brought before the association is not very complimentary. I am disposed to accord sincerity and honesty to those who have presented these papers and hope I may be accorded the same. During the legislature of 1885 I was chairman of the committee on education. The bill for the township unit then came before the legislature and was referred to our committee. For many months I studied the question, making every investigation possible, and the committee unanimously reported against its passage. A year or two ago, when the matter was before the legislature, I appeared before the educational committee at the request of the State Grange and presented the matter without money and without price. That has been my connection with the matter. I am not in favor of it in the Upper Peninsula. If it would operate in thickly populated districts as Supt. Pattengill says it does in the northern districts, it might be well, but it would not. Suppose you have a district containing a schoolhouse worth $500 next one having a $2,000 schoolhouse. You must equalize the taxes, but the people will not stand it. Again, how much time would it take in sparsely settled districts for the farmer to hitch up and take his child two or three miles to school each day? These are practical questions that must be met if you put this beautiful theory into practice.

COMMR. PALMERLEE:
I would a thousand times rather withdraw the motion than have any appearance of disrespect to any of these men mentioned. We all agree that there must be another side to this question and my motion was made with no intention of disrespect to any one, but simply that we might get more light; and I knew of no one in the State so well qualified to present the other side as these men.

MR. CAMPBELL:
I accept the apology.

HUGH BROWN:
My business is such that I travel through Indiana and know considerable of the workings of this system there. They once had the same system that we now have and had the same difficulties to meet. but they met them. My attention was recently called to the fact that they have accomplished just what has been claimed as impracticable; viz., in the sparsely settled districts the township officers have taken up the schools and employ a man who carries them to the nearest school where there are thirty or forty pupils, and they have all the advantages of the larger district. I was informed by the County Superintendent that the expense of carrying these children to the neighboring school was much less than the cost of supporting so many small schools. In Indiana they find they can have much longer terms and taught by better teachers for the same money than under the district system. If that could be done in Indiana it can be done in Michigan. I think we are confessing a weakness, if we say we cannot do what the Hoosiers have done.

SUPT. HILLS:
I do not know of any better evidence than the written statement over his own signature of the highest authority in the State in educational matters. I hold in my hand a letter from the State Superintendent of Indiana, as also from many other states where the township system is in use. I could give you letters from the Superintendents of at least twenty such states, not one of which expresses any dissatisfaction with the township system.

SUPT. CONLAN:
This system does away with the favoritism in the selection of teachers which is one of the great defects of our present system. Then, too, as our supervisors are chosen from the best men of the township, so the five members of the board under the township unit would be chosen from the best the township affords. I believe if Michigan had this system, it would save $300,000 every year.

HON. FERRIS S. FITCH:
At one time I was invited to present this matter before the Pomona Grange of Oakland county, and I investigated the matter thoroughly. I refer to this merely because it applies to what I am about to say here of the importance of sitting down and reasoning together about this. Although there were in that assembly some of the representative men of the county, a member of the legislature, president of the agricultural society, and other officers of the Grange, yet I found but little difficulty in answering any questions put to me, except regarding the fractional district. I believe we shall arrive at the solution of this question by discussing our points of difference with those on the other side, and I have no doubt what that solution will be. I think the township unit is coming into use as sure as fate. I am grateful to Mr. Campbell for the remarks he has made, but believe that much of the opposition that now prevails among the Grangers of the State is due to the fact that they let two or three men do their thinking and their talking. I believe as a rule they are not radically opposed to it, but there are two reasons for their hesitation. One is that farmers are naturally conservative and will not deviate from their institutions until convinced there is an improvement to be gained. Another thing that stands in the way is the fact that, in the districts that send down delegates to the legislature protesting against the township unit plan, there is usually some man who owns a very considerable tract of land and has been able, under the district system, to control the district and to limit the school to the very lowest number of months, thereby escaping the taxation which is imposed upon him by the township unit system. Under the township unit it will not be the poor man that will be oppressed, but the rich owner of some large tract of land who has been dodging the taxes. The men who have to struggle to get the money to pay their taxes are the men whose boys and girls ought to be educated, and they are the men whose boys and girls are not being educated. The

very reason to me why the township unit system should be adopted, is to give an equal amount of education to the masses.

At the conclusion of Mr. Fitch's remarks, Commissioner Palmerlee's motion was amended so as to instruct the executive committee to see that the pro and con of this question be presented at the next meeting of this association. Carried.

Sec. Hoyt then presented Mr. Lyon, teacher of penmanship in the Detroit schools who said: When I came here I did not expect to speak on penmanship, but having seen how little attention was paid to this branch, I begged the privilege of speaking of the subject in which I am most interested. Like Mr. Pattengill, I like best to talk against opposition, and had hoped something would be said favoring vertical writing, so that I could speak against it. I have carefully read everything I could find upon this subject, but have yet seen not a single argument for it; there are many statements going the rounds of the press, but I believe, if traced, they would all be found to emanate from one and the same person,—one Jackson living in London, who is the author of a system of vertical copy-books—and most of these statements are paid advertisements. If you adopt the vertical writing you are fighting against nature. For years but little attention has been paid to penmanship. People say, "Oh, they'll learn to write anyhow." Yes, they do learn to write just *anyhow*. I am glad that this matter is being agitated and earnestly hope it may be carried forward until we shall put this writing where it belongs.

SEC. HOYT:

As many, including our newly elected president, must soon take the train, I feel that I must stop this discussion; and I now present to you Mr. C. T. Grawn.

SUPT. GRAWN:

I am extremely thankful to the teachers of Michigan for the great honor conferred upon me in electing me president. It is not my idea to outline my policy, but it shall be our object to do our very best to present a program which shall not be inferior to the very excellent one we have enjoyed at this association. Thanking you again for the high honor, I await your pleasure.

SUPT. MILLER:

I move that Mr. Lyon be asked to present a paper on penmanship at the next meeting of our association. Carried.

SUPT. PATTENGILL:

It is customary for the association to fix the number of copies of the minutes to be printed, and this matter should be decided.

SEC. HOYT:

I would move that there be printed two copies for each member of the association, and five copies for each officer and each one who presented a paper. Carried.

There being no farther business to come before the meeting, the association was adjourned.

REPORTS

OF

COUNTY COMMISSIONERS OF SCHOOLS

FOR THE

SCHOOL YEAR

1892-93.

REPORTS OF COUNTY COMMISSIONERS OF SCHOOLS.

ALCONA COUNTY.

LORENZO FREDERICK, *Commissioner.*

SCHOOL APPARATUS.

The schools of this county are well supplied with apparatus, when we consider the poverty of the people as compared with the older counties, a fact which shows that our people are deeply interested in the education of their children; and I respectfully suggest that the department do all in its power to aid financially our people who in poverty are trying to educate their children in this land of "jack pines."

UNIFORMITY OF TEXT BOOKS.

It has been a difficult task for both commissioner and teacher to preserve a uniformity of text books, as our districts are composed, in many cases, largely of a nomadic population who do not attend the same school more than six months and then appear in some other school with the text books used by them in the last school they attended. We have, however, by constant vigilance and patience, succeeded in getting a uniformity of text books and maintaining it.

TEACHING PATRIOTISM.

Patriotism does not receive the attention in the schools of the county that I think its importance demands. Our people are, as a rule, very patriotic.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Kindergarten work in primary grades is not carried forward as successfully as it should be, and I attribute this lack of thorough work to a want of proper methods on the part of our teachers who are not required to pass an examination in this particular branch and, in many cases, seem to know nothing whatever of kindergarten work.

TEACHERS' INSTITUTES.

The institutes of the county have been fairly successful, but have not fully met the expectations of our teachers, because the work has not been thoroughly practical; and our teachers are beginning to ask, "Does it pay?"

Owing to the isolated condition of the settlements in our county, such pleasant and profitable gatherings as teachers' associations and teachers' meetings are a practical impossibility,—a fact much regretted by your commissioner.

Harrisville, Mich.

ALLEGAN COUNTY.

P. A. LATTA, *Commissioner.*

SCHOOL APPARATUS.

During the winter term of 1893 I sent a blank to each teacher for a special report as to the condition of each school in the county and its equipment for school work. From these reports it appears that one hundred and sixty-five of the schools of this county are supplied with dictionaries, eighty-seven with maps, ninety-seven with globes, and seventy-five with charts. This statement does not include the graded schools of the county, which are fairly well provided with apparatus. Each rural school is also furnished with Welch's Classification Register, and the teachers are furnished with all necessary blanks and cards required in the use of the system.

UNIFORMITY OF TEXT BOOKS.

The reports show that one hundred and seventy-four of the one hundred and eighty-four schools in this county, have uniformity of text books in each branch.

School boards have come to understand the benefits of a better classification of the pupils in the schools, and the result is, they have acted more promptly in prescribing the subjects to be taught. The teachers now have little cause of complaint from this source of annoyance.

TEACHING PATRIOTISM.

The schools now quite generally take part in Decoration day exercises, and very many of them hold special exercises on Washington's birthday, composed of recitations, readings, and music of a patriotic character. These exercises awaken an interest among the people and stimulate enthusiasm among the young for free institutions, a love of country, and the flag that symbolizes free schools, free thought, and free institutions throughout the land.

OBSERVANCE OF SPECIAL DAYS.

I have no data to show exactly how many schools have held special day exercises during the last year. Such exercises have been recommended in our educational meetings, and teachers have been urged to provide for them. Many of the schools have held exercises commemorating the birthdays of some of our most distinguished American authors, and the practice is growing in favor among teachers and pupils.

KINDERGARTEN METHODS IN PRIMARY GRADES.

A good deal of instruction has been given in kindergarten methods and work to the teachers during the year. It has been discussed and explained in our educational meetings, and the work has been ably exemplified by expert teachers of the subject in the State institutes held in the county. As a result, some features of the kindergarten have been introduced into the exercises of the first and second grades along the line of number work, drawing, and language, in connection with stick work, map weaving, and similar exercises. It would seem that the problem is to adapt certain exercises of the kindergarten to the primary work of the public schools, as, under the present conditions, it is impossible to change the primary grades of the public schools into real kindergartens.

Enough has already been accomplished to demonstrate the benefit of a judicious adaptation of kindergarten methods to primary school work. The conclusion is that the work of the first and second grades of the public schools can be very materially enriched by a right selection and use of kindergarten material and methods.

TEACHERS' INSTITUTES.

Three State teachers' institutes have been held in the county during the year—one at Saugatuck, one at Wayland, and one at Allegan. There has also been held one meeting of the Lake Shore Educational Club at Saugatuck, and two at Ganges. The Allegan County Educational Club has held meetings at Hopkins, Martin, Otsego, Plainwell, and Allegan. These meetings have been well attended, and the subjects discussed pertained to the science and art of teaching.

REFERENCE BOOKS AT SCHOOL HOUSE.

Only a very few schools outside of the graded schools are supplied with any kind of books of reference. Most of the townships use the library money for school purposes, and there is no effort made to provide a district library for the use of the pupils in rural schools. All of the larger graded schools maintain school libraries.

There is need of some additional legislation making provision for a limited number of good books of reference to aid and supplement the work of instruction in our rural schools.

BEAUTIFYING SCHOOL GROUNDS.

Some of the rural school grounds have beautiful groves and have been improved, adding much to the comfort and pleasure of school life. In

many cases a worthy effort has been made by pupils and teachers on Arbor day to plant trees for the adornment of school grounds; but in most cases the effort is futile, for when the dry weather comes during the summer months, the shrubs and trees wither and die for want of water and care. Most of the school grounds would soon be improved and planted to trees by the voluntary efforts of pupils and teachers, if there was only some way of protecting and caring for them during the long vacation.

No argument is necessary to show the elevating influence of pleasant surroundings on the developing minds of the young, still school officers do not view it in that light and as a rule give little attention to school ground improvements.

In my visits among the schools I have found a few districts that voted money for the improvement of school premises, but they are rare exceptions. I can report a gradual advance in this regard, but it is slow.

GRADING OF SCHOOLS.

In closing this report I will say that, in my work of school visitation, I have endeavored to direct the instruction along the outline laid down in the State Manual and Course of Study for district schools.

The teachers have entered heartily into the spirit of the work and I think they now generally approve of the plan and use the methods. One hundred and fifty-one pupils in the rural schools finished the eighth grade work during the year and passed successfully the required examination and received their diplomas. Many of these students will enter the ninth grade during the ensuing school year.

Allegan, Mich.

ALPENA COUNTY.

JAMES A. CASE, *Commissioner.*

VISITATION OF SCHOOLS.

Of my school work during the year I may say that it has been more extensive than last. All the schools were visited by me during the year from one to three times. Better work by the teachers has been the rule during the past year. It has been my constant endeavor to keep the best teachers employed by invariably recommending such teachers to school boards. It is becoming more difficult for careless and indifferent teachers to obtain positions in the schools of this county than it was formerly.

TEACHERS' WAGES.

One discouragement still exists that should be overcome in some way. The very best teachers receive no better wages than the poorest. Nearly all the towns are unit districts, and the wages are fixed by the boards at

the same amount, and too little discrimination is exercised in the assignment of teachers. This will, no doubt, be remedied in time.

SCHOOL APPARATUS.

Many of the schools are fairly well supplied with school apparatus, but many are not, there being in nearly all a lack of maps and blackboards.

UNIFORMITY OF TEXT BOOKS.

There is no great complaint made on this score, the books being nearly uniform; but there is some room for improvement in this respect.

TEACHING PATRIOTISM.

Patriotism is not taught in our schools as it should be. The singing of patriotic songs in some of them is about all there is of it. I intend making a special effort in this direction during the coming year and am glad that you call attention to the subject, as your doing so will pave the way for the commissioner to call the attention of teachers to the importance of it.

It is certainly not creditable to this county that "Old Glory" has never been seen waving over a school house within its borders. Possibly the fact that a very large portion of the people are foreign born and so did not imbibe American patriotism with their mother's milk, may in a measure account for it.

TEACHERS' INSTITUTES.

The last institute held in our county was well attended and heartily enjoyed by all present at its sessions, with a few exceptions; and in the case of the exceptions it was entirely owing to a failure on the part of the few to comprehend the fact that a successful institute is neither a picnic nor a holiday.

REFERENCE BOOKS AT SCHOOL HOUSE.

No school in the county, outside the city of Alpena, is provided with reference books. Now that it is provided that all schools may have libraries, it is reasonable to presume that this need of our schools will be supplied; for, while it is true that some teachers do not understand or appreciate the advantage of books of reference, others, and they the brightest and best, would gladly and most profitably make use of them in their school work.

BEAUTIFYING SCHOOL GROUNDS.

Beautifying school grounds! My dear sir, what do you expect me to say to that? When I think of the forlorn appearance of the great majority of the school house grounds in this county, your suggestion sounds like grim humor. In one instance that occurs to me, nature has succeeded in beautifying the school grounds with shade trees and lawn-like verdure, and the school board for some reason has not interfered with her proceed-

ings. If the school officers in the several districts could be persuaded to have the grounds cleared of logs and stumps, it would greatly improve the looks of the majority of school lots in this county. It may surprise you to learn that not above a half dozen of the school grounds in this county are even inclosed with a fence.

I propose to bring this matter before the people through the columns of the newspapers and by direct talks with the people, and see if something can be done to improve our schools in this respect.

GENERAL.

In looking over this report, I find that I have omitted the subject of Special Days and Kindergarten Methods in Primary Grades. There is so little of either in our schools as not to merit special mention.

Alpena, Mich.

ANTRIM COUNTY.

H. C. LOTT, *Commissioner.*

During the past year the schools of Antrim county have been doing quite satisfactory work. The teachers, as a rule, have been progressive and are trying to succeed. This is shown, to some degree at least, by the educational journals taken and by the books on pedagogy and methods of teaching which are read.

READING CIRCLE WORK.

The Teachers' Reading Circle work was done by a number of teachers, as well as the required institute reading. This work done by the teachers has not failed to re-act upon the schools, whose greatest need is a true, live, thorough teacher.

GRADING OF SCHOOLS.

The work of grading is being as rapidly accomplished as time will permit. The teachers are doing their best to bring about this result.

UNIFORMITY OF TEXT BOOKS.

Uniformity of text books is being secured. Modern uniform texts are taking the places of the old.

SCHOOL APPARATUS.

In regard to apparatus, the people generally are liberal toward the schools; and maps, dictionaries, reading, geographical, and anatomical charts are in most of the schools. What is lacking, in too many cases, is the teacher who knows how to make intelligent use of them.

TEACHERS' INSTITUTES.

The county institute conducted by H. T. Blodgett was of marked success. The result of the work done at that time was seen and felt through the year. Two sessions of the county association were held, both well attended and very profitable. Our schools are in the line of progress.

Bellaire, Mich.

ARENAC COUNTY.

S. E. HAYES, *Commissioner.*

SCHOOL APPARATUS.

The schools of Arenac county are in a flourishing condition. The school houses are nearly all frame buildings, well seated and supplied with apparatus.

ATTENDANCE.

Our people take a deep interest in educational matters and seem to be desirous that their children should all enjoy the benefits of our schools, hence we find that the attendance has been excellent during the year last past, and excellent progress has been made by the pupils.

TEACHERS' INSTIUTES.

I believe that the success of our schools has been due, to a great extent, to the teachers' institutes which have been held in this county.

The attendance at our institute last winter was large; and Prof. Rankin, the conductor of the institute, seemed intuitively to grasp the needs of our teachers and, by careful and thorough instruction, served to give a new impetus to the educational work in this county. I believe that it is a good plan to hold the teachers' institute in this county during the winter season, for the reason that there is then a better attendance and more interest manifested in this work than in the summer season. There is great room for improvement in our schools, but at the same time we believe as good work has been done during the past year as could be expected.

Maple Ridge, Mich.

BARAGA COUNTY.

W. C. SCHAFER, *Commissioner.*

SCHOOL APPARATUS.

The schools of this county are fairly equipped with school apparatus, charts, and maps. The boards of the common district schools are liberal as a general rule in this county.

UNIFORMITY OF TEXT BOOKS.

Uniformity of text books does not exist as a county uniformity, but many of the townships are organized under the township unit law, and where such organization exists there is uniformity.

TEACHING PATRIOTISM.

Many of our rural as well as our village schools, float flags over their buildings and observe special days with appropriate patriotic exercises.

KINDERGARTEN METHODS IN PRIMARY GRADES.

The village schools of the county all have a system of kindergarten instruction.

TEACHERS' INSTITUTES.

There was no institute during the past year.

REFERENCE BOOKS AT SCHOOL HOUSE.

Our village schools are provided with very good libraries, and some of our rural schools have begun libraries.

BEAUTIFYING SCHOOL GROUNDS.

Arbor day is too early for successful tree planting in this section of the State, hence it was impractical to beautify the school grounds by tree planting; but many of the schools observed the day by having Arbor day exercises.

GRADING OF SCHOOLS.

The schools are, with the exception of the villages, following the State course of study as outlined in the State manual. There were two grade examinations for diplomas of graduation in the common branches, conducted by the commissioner. The work of supervision has been successfully and systematically carried out in the county by the commissioner and school boards.

Baraga, Mich.

BAY COUNTY.

J. E. KINNANE, *Commissioner.*

GRADING OF SCHOOLS.

The work of the schools of Bay county for the school year of 1892–3 has been on the same general plan outlined in my former reports. The course of study is the basis; the classification register is a guide and helper; the ultimate mastery of the work and gradation, the goal.

Our plans for final examination and graduation of pupils, which are fully set forth in my report for last year, have been followed, except in so far as they have been modified by the furnishing of questions and fixing dates of examination by the Department of Public Instruction. Two examinations, I believe, are much better than one; and the furnishing of questions by your department not only helps the commissioner and secures uniformity in the test, but also gives a dignity and importance to the examination in the eyes of parents, pupils, and teachers, that in many cases it would not otherwise possess. The popularity of the section plan for graduating purposes and our extraordinary success last year, induced me to follow the same practice in our graduating exercises this year. The plan is to group a number of schools having graduating pupils together at some central point in that county and have them unite for their graduating exercises. The plan is set forth in detail in my last report and needs no further mention here.

We had forty graduates all from our country schools, this year. For graduating purposes they were divided into three sections; ten in one section and fifteen in each of the others. The success of our exercises this year has confirmed my formerly expressed opinion that better results are attained in this way than where each school works by itself.

TEACHERS' ASSOCIATION.

Another factor in the educational work of this county that deserves special mention, is our county Teachers' Association. It has grown within the last few years to be popular with the people and teachers, and to be a power in arousing enthusiasm and disseminating educational ideas in the county. It deserves the fullest encouragement of all friends of the schools.

Bay City, Mich.

BARRY COUNTY.

ENOCH ANDRUS, *Commissioner.*

I submit the following written report, in a measure explanatory of the statistical report sent. I am glad to be able to report a prosperous year generally and a steady advance in every direction. Several new houses built, many others reseated or otherwise improved, new apparatus procured, more teachers employed throughout the year, better school sentiment every way.

GRADING OF SCHOOLS.

The grading of the schools is now thoroughly established and meets with no opposition any where. The irregularities in classification resulting from the unsystematic work so long in vogue in the schools, are being steadily outgrown. The plan is popular with teachers and pupils, and is rapidly becoming so with all. Promotion and graduating exercises call out the people and give them a new interest in the work. A large propor-

tion of the graduates enter upon a high school course, and it may be justly claimed that this movement has encouraged many to do thus who otherwise would not.

VISITATION OF SCHOOLS.

In the matter of visitation I have preferred to take a course that seemed to promise the best results rather than one that might enable me to say that I had visited all the schools twice, thrice, or any other number of times. A formal call of a few minutes certainly cannot be productive of very much good. Even if the teacher is doing superior work and the visitor may see no reason to offer any suggestions, still this teacher and her pupils like to feel that their work is appreciated and worthy of something better than a mere call. Every school is given a half day, and some of them visited a number of times. I always endeavor to reach every teacher that may be employed during the year. I find it most profitable to reach the beginners very early in their work, and then repeat the visit in a few weeks to see how far suggestions given have been carried out.

UNIFORMITY OF TEXT BOOKS.

While we have not uniformity, still little difficulty is experienced in the matter. Only one district has adopted the free text book plan, yet a three years' trial has demonstrated its value to all in the district and it is entirely satisfactory, as I believe. While some of the books in use are not the best, most of them are good, and I have not urged a change save in the matter of reading books. To quite an extent the pupils in the seventh and eighth grades use no text book in reading, but instead procure reading matter in other forms. Selections like Evangeline, Snow Bound, Legend of Sleepy Hollow, etc., have been studied with great profit, and the result is very satisfactory.

VENTILATION.

As to the number of houses properly ventilated, no very definite answer can be given. In general the subject cuts no figure in the construction of a country school house. Teachers are doing the best they can and employing such means as will best accomplish the result under the circumstances. There is no special difficulty in the matter of heating.

PUPILS' READING CIRCLE.

The work of the Pupils' Reading Circle has received special attention during the year and successful results have been obtained. Over fifteen hundred pupils have been engaged in the work. Through the interest thus created, in many districts a considerable sum has been raised for the purchase of other books, and thus a fine start made toward a library.

NEEDED LEGISLATION.

Our legislature at its last session made some changes in the law that cannot but be productive of good. Some others are needed:

1. There should be better facilities for the professional education of

teachers for the country schools. So long as this education must be acquired by "practicing" on the children, subject only to such supervision as one person can exercise over an entire county, so long must progress be slow. As the teacher is the main factor in the making of a school, it would seem only in the line of economy for the State to make more adequate provision for his professional preparation.

2. Provision should be made for placing a library in every school house in the State. No time need be spent in discussing the value of this. I believe the most effective way to accomplish this is by the plan now in operation in New York. Let the State apportion a certain sum to each district, conditioned upon the people raising a like sum. This will give a greater personal interest in the matter and more certainly insure success. The State is abundantly able to do this and should do it.

3. Through some oversight, I suppose, the legislature failed to demand a teaching experience on the part of the commissioner; and, by a blunder, no safeguard whatever surrounds the office of examiner. These should certainly be remedied. No one is competent to judge of the work of another unless he has himself had experience in that work; and for one to presume to examine a candidate for a first grade certificate when he himself could not possibly get a third grade, looks too much like a farce.

Hastings, Mich.

BRANCH COUNTY.

D. W. HERMAN, *Commissioner.*

GRADING OF SCHOOLS.

I have during the year just closed endeavored carefully to note the real condition of our schools, especially in the country districts; to inaugurate a general system of improvement; and to enforce, as far as circumstances would permit, a plan for securing better school work.

I have provided the districts with Welch's registers, and brought considerable pressure to bear upon the teachers to carry out the system of grading and reporting the work of their schools to the county commissioner and to their successors.

The system as carried out by nearly all the teachers is eminently useful in several particulars. First, it begets a sense of responsibility on the part of the teachers that, in its absence, but few teachers would feel. They feel that the commissioner is in possession of the necessary means of knowing what they are doing or not doing during the term, and no teacher of any proper enterprise will be content to make a poor record in this regard. Second, with proper manipulation, it gives an inspiration to the pupils naturally growing out of the fact that their work is permanently preserved in the records of the districts and will make or mar their future reputation long after their school days are past. Third, it obviates the vice of almost aimless repetition term after term by taking pupils over nearly the same ground in each succeeding term.

PROGRESS OF SCHOOLS.

I have noted a marked improvement in the schools of the county during my incumbency; and I am confident that, with proper following up of the system, at least one lever will be employed to lift district school work out of a condition that in some instances is little short of criminal negligence in allowing time of inestimable value to pupils to slip away poorly improved to the lifelong detriment of those pupils.

Further, I have endeavored to keep abreast of the improved methods of school work and, by precept and example in schools, teachers' associations and institutes, to carry my teachers forward upon the road of progress.

Permanent progress in school work is a thing of slow growth. The commissioner must be taught to teach the teacher to teach the pupil.

TEACHERS' WAGES.

Several things stand in the way of anything like ideal progress. Frequent change of teachers, employing poorly equipped teachers, and readiness on the part of patrons to throw their influence against the teacher, are among the more prominent. Employing cheap teachers seems in some cases, under the present condition of things, to be almost unavoidable. Many of the districts have so small a representation of children of school age that to pay what might be called fair wages becomes burdensome. Some plan may suggest itself in the future whereby, through concentration, better talent may be secured.

GENERAL.

The people of this county are progressive. Many school houses have been rebuilt, some refurnished, and several new ones built. In a majority of the schools, the school work has been of a high order that would do credit to our best city schools; and while much remains to be done, very much is being accomplished to lay the foundation of character, scholarship, and future success in life on the part of pupils.

Coldwater, Mich.

BENZIE COUNTY.

Z. F. McGEE, *Commissioner.*

UNIFORMITY OF TEXT BOOKS.

It is with pleasure I announce that our schools have bought quite liberally of primary reading charts and kindergarten charts, and since the completion of my spring series of visits (I visit each school in fall and spring), I understand several schools have put in Yaggy's new geographical chart.

You will note in my statistical report that the text books are quite uniform; the use of much supplementary work which I have encouraged tends toward making a mixture of texts, but the result is that teachers conduct their classes more upon the topical plan. Many teachers who could not induce the introduction of supplementary reading have bought a supply for themselves of geographical and other kinds of reading.

Along this line we have a marked improvement in enlivening the course of study and creating an interest in the current literature and events of the day. But very few teachers are now found who do not take and read one or more educational papers.

TEACHING PATRIOTISM.

A few of our schools only (I regret that there are not more) are supplied with flags and make good use of them, excepting the South Frankfort school, which has a fine large flag that has not been up for the past two years.

OBSERVANCE OF SPECIAL DAYS.

All the leading schools note special days, and this is a growing feature in our schools.

KINDERGARTEN METHODS IN PRIMARY GRADES.

As most of our teachers have had but little practice in kindergarten methods, we have but few who are competent to give instruction in them.

TEACHERS' INSTITUTES.

The institute work the past year was very successful, especially was the work of conductor C. L. Bemis beneficial. We have so many young teachers in attendance that a division into sections, for the benefit of the older ones in the work, would make the plan an experiment rather doubtful of good results. Aside from our teachers that hold Normal School diplomas, only three have had any normal work or methods, save those given at our institutes.

REFERENCE BOOKS AT SCHOOL HOUSE.

Two schools, aside from the graded schools, have either bought or are about to buy small reference libraries; others are being aroused to do likewise.

BEAUTIFYING SCHOOL GROUNDS.

There has been but little done in beautifying school grounds.

GENERAL.

There has been a healthy increase in the population of our county and a corresponding increase in the school attendance.

Three school buildings have been erected; one suitable to accommodate 200 pupils, the others 30 and 40 respectively.

Among the things we note this year over the previous one, is a closer observance of grade work and a corresponding improvement in the work done by the pupils as shown in their examinations. The plan of not folding the work of the pupils, but filing it at the desk of the teacher with a set of the questions written upon, has proved a genuine incentive to do good work, both to pupils and teachers. The commissioner as well as teacher and pupils, are pleased to have the questions furnished by the State Superintendent.

Benzonia, Mich.

CALHOUN COUNTY.

A. G. RANDALL, *Commissioner.*

GRADING OF SCHOOLS.

In addition to my statistical report, I desire to say that the year has been one of marked success in our schools. The work of gradation has been more thoroughly done than ever before and the success attendant very marked. There never was a time in the history of Calhoun county when the public manifested more interest in school work than at present.

A school manual containing the course of study with suggestions to teachers and school officers, was issued September 1, 1892, and its thorough circulation among patrons has been productive of much good.

VISITATION OF SCHOOLS.

Supervision has been earnest and thorough. Below is given a blank schedule of visitation, showing the character and extent of the data gathered by the commissioner. A blank report to the director is added. At the close of the year, visitation schedules are suitably bound and indexed for handy reference.

VISITATION OF SCHOOLS.

County of Calhoun, Township of..... District No.....

.....189.... .....Term.

.....Director. .....Teacher.

P. O..... P. O.....

School House and Premises.

Size of grounds? .....
Are there trees?.....
Condition of grounds?.....
Condition of out-buildings?.....
Is there a well?.....
Condition of house?.....
Material of house?.....
Size of house? .....
Seating capacity?.....
Are desks suitable?.....
Ventilation?.....
Appearance of room? .....
Is there a dictionary? .....
Are there maps?.....
Are there charts?.....
Is there a globe?.....
Value of premises?.....

Classification.

Are books uniform?.....
Is the school graded?.....
Number of grades?.....
Number of pupils in 8th grade?.....
Number of branches taught?.....
Number of classes? .....
Is Phys. and Hygiene taught? .....

Teacher.

Age?..... Wages per mo.....
Tact?..... Manners? .....
Originality?..... Enthusiasm?.....
Tidiness? ..... Fixing attention?.....
Experience? ..... Grade certificate? .....
Government? ..... Instruction?.....

General.

Are pupils interested?.....
Are pupils taught to think?.....
Does the teacher talk too much?.....
Is the teacher clear and concise? .....
What school journal does teacher take?.....
Is teacher a member of R. C.?.....
Is teacher a member of C. T. A.?.....
Is there program posted in room? .....
Is there a grade register? .....
Are registers properly kept?.....

Statistical.

Enrollment, boys? .....
Enrollment, girls? .....
Term began? .....
Term will end?.....
Length of visit?.....
Distance traveled?.....
School ranks?.....

Pupils.

Respect?..... Neatness?.....
Conduct?..... Obedience? .....
Studiousness? ..... Attention?.....
Punctuality?..... Order?.....

Work.

Reading? ..... Writing?.....
Language?..... Grammar?.....
Arithmetic?..... Geography?.....
History? ..... Physiology?.....
Civil Gov't? ..... Book-keeping? .....
Gen. History?..... Algebra? .....

Text Books.

Readers? .....
Arithmetic? .....
Grammar? .....
Geography? .....
Speller? .....
History?.....
Physiology? .....
Civil Gov't?.....
Algebra?.....
Book-keeping? .....

Remarks:

Plan of House.

Tekonsha, Mich.. ..... 189...

Director Dist. No.....

DEAR SIR:—
I have this day visited your school and would respectfully call your attention to the following report. It is important that you give the same careful inspection and place on file in your office for future reference.

Yours truly,
A. G. RANDALL,
County Commr. of Schools.

School Room and Grounds.	Need Globe.....
Appearance.....	" Dictionary.....
Furniture.....	" Register.....
Apparatus.....	" Crayon and erasers.....
Out-buildings.....	" Water pail.....
Teacher.	" Broom.....
Tact.....	*General.*
Manners.....	Are pupils taught to think?.....
Originality.....	Is teacher clear and concise?.....
Enthusiasm.....	Does teacher talk too much?.....
Tidiness.....	Are pupils interested?.....
Ability to instruct.....	What is general tone of school?.....
Government.....	What school journal does teacher take?.....
Wants.	Is teacher following State grade?.....
Need more black-board.....	What grade certificate has the teacher?.....
" Maps.....	

School Ranks.....

☞Questions and facts are marked on a basis of 100 per cent. The schools of the county are divided into four classes, A, B, C, D. "A" is excellent, "B" good, "C" fair, "D" poor.

SCHOOL APPARATUS.

A majority of our schools are fairly supplied with maps, globes, charts, etc. The most serious deficiency is in the lack of black-board both as to quality and condition.

UNIFORMITY OF TEXT BOOKS.

None of our schools have adopted the free text book plan, but the majority of them have succeeded in adopting a uniform series. By the close of another year it is hoped that every district in the county will be in line in this respect.

TEACHING PATRIOTISM.

The stars and stripes floating over forty per cent of our school houses, suggest a growing sentiment among the common schools to instill in the minds of pupils sentiments of loyalty and love of country. The singing of patriotic airs in nearly all schools is fruitful of ideas of nationalism. No wonder that it has been said, "The common schools are the bulwarks of the nation."

OBSERVANCE OF SPECIAL DAYS.

There is a growing disposition among our teachers to make the most of special days. Washington's and Lincoln's birthdays have their lessons

to American boys and girls, and most of our teachers observe the events by suitable exercises.

BEAUTIFYING SCHOOL GROUNDS.

Arbor day was observed by seventy-five schools in setting trees, planting flowers, and otherwise beautifying the school premises. Above 500 trees were set by the pupils last year. The following circular sent out to the teachers early in April was fruitful of excellent results.

CIRCULAR NO. 4.

OFFICE OF THE COMMISSIONER,
CALHOUN COUNTY BOARD OF SCHOOL EXAMINERS,
Tekonsha, Mich., April 17, 1893.

DEAR TEACHER:—
The Governor of the State has designated Friday, April 28, 1893, as Arbor day, and urges all our people to observe it by planting trees along the highway and about their premises. You are asked to devote the day, or at least a part of it, to carefully cleaning the school yard, the school room, decorating the walls, and otherwise beautifying the surroundings of the school premises, as your taste suggests. If repairs are needed, confer with the school board, enumerate your wants beforehand and kindly urge the officers to hearty co-operation. If the walls of the school room are dark and untidy, plan to have them papered or calcimined upon that day.

Every patron, every child, should feel a deep interest in beautifying the school grounds and school buildings. It should be a joy to children to decorate and preserve beautiful school grounds, and it is an important part of the teacher's work to so educate the youth of our land that the vandalism of cutting and marring public property shall disappear.

We would suggest that each grade in school plant a fine tree and take upon themselves the responsibility of caring for it. To make the day a success, the teacher must enter into the scheme with enthusiasm and plan the work immediately. The week following Arbor day each teacher is expected to report to the commissioner the results of his efforts. A report is desired whether the day is observed or not, that a full record of the work may be kept at this office.

Yours truly,
A. G. RANDALL, *County Commr. Schools.*

TEACHERS' INSTITUTES.

The institute of last spring at Marshall was a decided success and proved of marked benefit to all teachers in attendance. The law should be changed so as to make the attendance of teachers compulsory. Under the present arrangement, the progressive teachers are always present, the reactionary ones never. Upon the whole the institute may fairly be said to be gaining public favor.

Tekonsha, Mich.

CHARLEVOIX COUNTY.

MARIA A. BEACH, *Commissioner.*

SCHOOL APPARATUS.

Our schools as a rule are well supplied with the most necessary apparatus.

UNIFORMITY OF TEXT BOOKS.

Text books are not as uniform as we would like to have them, but it is only a matter of time when they will become so, as efforts are being put forth in that direction.

TEACHING PATRIOTISM.

The past year has been so full of opportunities for teaching patriotism that our teachers have been a little afraid of overdoing the matter, if that were possible.

OBSERVANCE OF SPECIAL DAYS.

Of course the schools have not observed all of the special days. Arbor day we cannot observe in this climate; the remark made by one of the teachers in the upper peninsula that the State be required to furnish dynamite with which to blast holes in the ground for planting trees, is equally applicable here.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Some of our teachers employ kindergarten methods in a small way and with marked success. Aside from that, however, it is not wholly employed by any school in the county. It is the exception rather than the rule to find these methods in use at all, valuable as they are. Some of our teachers contemplate taking special work in this branch, and we shall look for happier results.

TEACHERS' INSTITUTES.

We have held but one teachers' institute and that was at Charlevoix nearly a year ago. There was not as much interest manifested as usual. but that was largely the fault of the local committee.

REFERENCE BOOKS AT SCHOOL HOUSE.

The very worst feature in connection with our schools is the very noticeable lack of books. We have *no* school libraries.

BEAUTIFYING SCHOOL GROUNDS.

There is but little thought given to the beautifying of school grounds, but as the country becomes more settled and *stumps* gradually recede from view, the natural results will follow.

GENERAL.

On the whole we think our schools are in a much healthier condition than they were two years ago; our teachers are more earnest, the pupils as well as their parents, more interested. The outgoing board have endeavored to raise the standard of the teacher as well as his wages, thereby causing the removal from the ranks of teachers of such as were undesirable and filling their places with those who love their work as well as their pay.

Boyne City.

CHEBOYGAN COUNTY.

D. J. GALBRAITH, *Commissioner.*

SCHOOL APPARATUS.

Of the fifty-four schools in the county of Cheboygan (not including schools in the city of Cheboygan) less than one-half are supplied with suitable school apparatus; but this is not to be wondered at as, in most instances, the districts are sparsely settled and the people are poor. The little log school house is still to be found in Cheboygan; but these are gradually being replaced by more commodious frame structures, there being only seven left in the county.

OBJECTIONABLE FEATURES.

In many of the rural districts there are two terms of school each year, a summer and a winter term, the larger children attending school during the winter and remaining home in the summer to assist on the farm; the smaller not being able to attend school in winter on account of distance from the school and the bad condition of the roads. For each term a different teacher is usually employed, which is very injurious to the progress of the school. I am convinced that a teacher who engages in a school for six months can advance her pupils the last two months nearly as much as she can the first four. Another drawback to our schools is the employment of female teachers; not but what females can conduct a school as well as males, but it is a notorious fact that the average length of time they engage in teaching is only about two years, when they abandon the business of teaching for the more congenial occupation of becoming the helpmeets of their patron's sons.

SCHOOL SUPERVISION.

Now you will probably ask what have I done to relieve the dark shades of the picture I have drawn. I can only say, "But very little." My position has not been satisfactory to myself nor profitable to the county. The board of supervisors of this county have always engaged the commissioner, paying him the smallest salary the law would allow, with the understanding that he continue in the occupation in which he is engaged and devote his spare time to the schools of the county. From my salary of $500 I pay $250 to the examining board to assist me, and it takes nearly one-half the balance for expenses; so you see the office of commissioner is not very desirable, from a financial point of view, in this county.

QUALIFICATIONS OF TEACHERS.

We have been exacting 80, 85, and 90 per cent in granting certificates, which is a little high for the examination questions we have been receiving lately. At our last examination only four out of a class of twenty-one passed, which had the effect of closing some of our schools. From this I would not have you infer that I dislike the questions or that I think them

too difficult. On the contrary, I think they have been selected with great care and are all that could be desired; however, should the next set of questions prove as difficult as the last, I think it will be necessary to lower the percentage.

Cheboygan, Mich.

CHIPPEWA COUNTY.

P. T. ROWE, *Commissioner.*

QUALIFICATIONS OF TEACHERS.

The past year has been one of most marked advance in the schools of this county, both in the increased interest among the officers of the districts and the people generally, and in the good work accomplished in the same.

The determined effort of the Board of Examiners to make the qualifications of teachers high and thorough, has had the effect of giving us a most efficient and energetic staff of instructors who are a credit to the profession in this land. The supply has been almost less than the demand, and the consequence is that directors are alive to the fact that better pay does mean better teachers and better work.

GRADE EXAMINATION.

The arrangement for the 8th grade pupils examination has been a most happy one in the interests of the schools. The smallest and most remote school in the county has been touched and awakened by the desire to have a part and place in this examination.

SCHOOL APPARATUS.

There has been a steady increase in supplying the schools with such apparatus as is needed for good work. The text-books are uniform in each district, though not so as far as the township and county are concerned; but we are striving patiently towards the attainment of this desirable object.

TEACHERS' INSTITUTES.

The attendance of the teachers at the last institute was most satisfactory, and the able State conductor did such good work that it has already in many places borne fruit. The suggestions, such as teaching patriotism, adopting kindergarten methods in primary grades, having reference books, etc., are being most fully carried out.

Sault Ste. Marie, Mich.

CLARE COUNTY.

HERMAN M. ROYS, *Commissioner.*

SCHOOL APPARATUS.

Nearly all the schools are well supplied with dictionaries, maps, globes, charts, etc., and I am pleased to report that these supplies are so used that they are of much benefit to the pupils. I visited schools in the county and, much to my gratification, saw boys and girls as young as eight years of age walk up to the dictionary and without aid look up the meaning and pronunciation of words. This is a great step in advance of the district schools of only a few years ago. I noticed that the schools in which the dictionary was most used, were those where, hung upon the wall, were the tables of elementary sounds, neatly and plainly printed on manilla paper. This is the secret of the young pupils being "at home" with the dictionary.

UNIFORMITY OF TEXT BOOKS.

With but two or three exceptions every school has uniformity of text books in each branch; and, while no action has been taken to secure entire uniformity in text books in the county, in the majority of the schools there is uniformity.

QUALIFICATIONS OF TEACHERS.

Since the legislature passed the so much needed law regarding teachers' certificates, I notice that our teachers seem to feel that they are relieved from the "yoke of bondage." Before it became a law, some commissioners who understood the workings of the school room and the anxiety many teachers had for a month or more before the yearly examinations for third grade certificates, took it upon themselves to allow standings above a certain per cent of previous examinations to apply on certificates next higher than the one formerly held. This proved one grand step in advance along the educational line. The time spent "boning" on reviewing what they already knew, was devoted to study with the view of securing a higher grade certificate. As a result, many who were once well satisfied with thirds, are now teaching on firsts and seconds; so long as they are given a chance to improve, their zeal will not become less.

OBSERVANCE OF SPECIAL DAYS.

There are always a few who seem to care little whether "school keeps or not," and we are laying such "on the shelf" as rapidly as possible, and of course these take all the holidays—legal and special—that they have a chance to take. However, few in this county observe other than the regular holidays.

KINDERGARTEN INSTRUCTION IN PRIMARY GRADES.

In the city and village schools kindergarten instruction is given and the best methods used; but not so much attention—though I gladly note much improvement along this line—is given to this in the district schools.

TEACHERS' INSTITUTES.

The institute this year being held at Clare, the most convenient railroad center, and having two very able conductors, J. N. McCall of Ithaca, and Prof. S. D. Brooks of Mt. Pleasant, was largely attended and was one of the most wide awake and profitable meetings of the kind ever held in this county. I heartily favor the institute, knowing that the State Normal is not within the reach of all. At this institute fifty teachers were enrolled, and as many went away at the close of the work with new ideas and methods, the influence and benefit of which will be felt in years to come.

REFERENCE BOOKS FOR SCHOOL USE.

I am compelled to report very unfavorably as to reference books. For a reason I do not understand, few of the districts receive the library money from the State, or if they do receive it, it is used for other purposes. None of the districts are without some reference books, though few have books which are district property. These books belong to teachers who, rather than have their pupils without, furnish them at their own expense.

THE SCHOOL GROUNDS.

There seems to be a growing opinion that the teacher who keeps his school grounds and premises in good condition, as well as looks well the workings of the school in the building. While there are exceptions, this is generally the rule and as our teachers are mostly [illegible] in the true sense of the word, our school grounds present a neat and tidy appearance.

GENERAL.

[illegible] last improvement in the schools and districts over the county within the past year. Many of the district schools are now graded—and those not graded will be the coming year—and while in some districts the new rules, the grades are kept just the same. In some districts a [illegible] grade may be omitted on account of not having the [illegible] good teachers, and probably for the [illegible] accounts for [illegible] in the school work, is the hiring of teachers by the [illegible] in the school rooms [illegible] a good [illegible] in the [illegible] of [illegible] improvements [illegible] teachers to hold good wages, and the most [illegible]

CLINTON COUNTY.

[illegible] INSTITUTE.

The [illegible] of the year ending June 1st, 1881, was begun by the State teachers institute held at St. Johns and conducted by Supt. J. W.

Simmons of Owosso, ably assisted by Mrs. Josephine A. Goss of the Grand Rapids training school. The work of these instructors was practical and helpful, and of such character as could be used in our schools; but we wish to emphasize the fact that the good work was the result of good instructors rather than the perfection of the system of institute control now in vogue in this state, and we are of the opinion that these instructors were inspired by their own genius and enthusiasm rather than by any outside influence provided by law. We think the time has arrived when the institute fee should be abolished, if institutes are to be under State management.

BEAUTIFYING SCHOOL GROUNDS.

I shall make an effort to improve our school grounds and out-buildings during the coming year. Our school houses are, with few exceptions in good condition, and a large number are well supplied with needed apparatus, which, I think, is the result of our work towards grading schools. In fact, there has been more improvement of school houses and more apparatus purchased this year than during the two preceding years.

UNIFORMITY OF TEXT BOOKS.

Our schools generally have uniformity of text books, and these books are usually the same as are used in the graded schools adjacent.

GRADING OF SCHOOLS.

Our work in grading schools has progressed as well as could be expected when we consider the conditions under which we have labored and the lack of material assistance from the State. The aid given by the Department of Public Instruction in the spring of 1893 was of the right kind, and all we desire is more of the same. Next to school supervision, I believe the work of grading schools and the permanent records to be kept of the same is the most important work of the commissioner of schools.

More of our teachers are hired by the year, as our school officers think this is necessary to teach and grade a school properly.

GENERAL.

Our teachers meetings have been largely attended and the manner in which our programs have been filled, together with the quality of the same, is highly satisfactory.

We are of the opinion that the public money should be apportioned according to the average daily attendance, and not according to the number of children in the district.

St. Johns, Mich.

CRAWFORD COUNTY.

W. F. BENKELMAN, *Commissioner.*

Crawford county is large, but thinly populated. This necessitates few and small schools; yet I believe them to be average. If one teacher to each pupil is, in theory, an ideal school, we come very near the ideal in some of our country districts. Individual work is thus possible, and in many schools the good results are plainly seen, while in others this condition seems to produce a state of lethargy in both teacher and pupil. On the whole the work in the schools has been very satisfactory during the past year.

GRADING OF SCHOOLS.

Welch's classification blanks are in use in each district, and we aim to grade each school, which I find is possible even with the smaller ones. We are somewhat annoyed by applications from boards for teachers with specials who could not obtain a grade. Also with would-be teachers who have been "plucked" in the lower counties, and who think the examination easier in these northern counties. We are gradually weeding out our specials, and hope to overcome the second annoyance mentioned by giving foreigners a special rating, believing in "protection to home labor."

UNIFORMITY OF TEXT BOOKS.

The system of free text books is in operation in every district except in Grayling, and I have yet to hear the first objection. I think that this is the only system when the schools are small and rich, and non-residents own the bulk of property in the district. This, I might add, accounts for the generosity of boards in supplying schools with apparatus. We have more apparatus to the square inch than any other county in the State.

TEACHERS' INSTITUTES.

Our teachers' institute last year was held at Roscommon. Very few of our teachers attended and for these good reasons: It is quite a distance to Roscommon and poor country teachers can ill afford to pay railroad fare and board, besides losing their time. Again, it was held the last week in March, the poorest season of the year for this locality. I am informed that the conductor gave excellent satisfaction and that the institute was voted a grand success. I am in favor of our present institute plan. I think, however, that each county ought to have an institute of its own. Crawford generally raises $30 annually; and this, in addition to the allowance from the State, should suffice for a good week's institute. I would suggest that the conductor sent here next year should come prepared to do practical primary work. Our country teachers have no use for theoretic lectures.

Grayling, Mich.

DELTA COUNTY.

A. P. SMITH, *Commissioner.*

In submitting my annual report I can consistently claim a general advancement in the educational work of the district schools of Delta county. There has been a marked desire to improve the buildings and grounds and a more generous spirit has been shown in that direction.

GRADING OF SCHOOLS.

The teachers have been endeavoring, when practicable, to grade the schools, and the results of the grade examinations throughout the county have been very gratifying to the teachers as well as to myself.

QUALIFICATIONS OF TEACHERS.

Regarding teachers' examinations I would state that it would seem I have taken a radical course in the marking of papers and the conduct of the examinations in general, if the feeling existing against me among a certain class of teachers is a criterion.

Beyond stating that my course seems to have met with the approbation of the progressive teachers, school officers, and the thinking public, I would say that I have tried to impress upon the applicants the true purposes of an examination, and I am in hearty accord with the recent enactments of the legislature upon the qualifications of teachers.

TEACHERS' INSTITUTES.

The institute held last August was a source of great help to the teachers; but I would recommend that the institute be held in this county at some other time than in the summer months, as the attendance might be more satisfactory.

SCHOOL FUNDS.

When I entered upon my duties of commissioner, I found that a large number of the districts were unable to carry on their schools for any desirable length of time on account of a lack of school funds. This was a source of great discouragement to those school districts having so much delinquent school tax returned.

This difficulty was largely overcome by the provisions of the tax law of 1891, allowing the school districts to retain the full amount of the taxes levied, whether collected or not. The new tax law not having the last named provisions, may revive the difficulty.

If the legislature does not see fit to allow the districts to retain the uncollected school tax from the State and county taxes collected, there should at least be provisions allowing the same to be completed from the township taxes collected.

VISITATION OF SCHOOLS.

This is a large county and a majority of the schools are widely scattered and the expense of traveling draws heavily on the small compensation of five hundred dollars allowed the commissioner. Notwithstanding I may not be recompensed in a pecuniary way, I have been fully remunerated by the satisfaction and pleasure I have derived from my duties. I have endeavored to visit all the schools, and what few schools I have not visited are in remote places, of few pupils, and it has been the fault of the school officers and teachers in not notifying me of the schools being in session as repeatedly requested by me.

TOWNSHIP UNIT.

Two of the townships have organized as township districts, and the results are very satisfactory and there has been no material opposition to the law in this county. I have no doubt that sooner or later nearly all of the townships will take advantage of the act. As I enter upon the second term of my office, I shall endeavor to make an effort to advance the schools of the county.

Gladstone, Mich.

DICKINSON COUNTY.

E. L. PARMENTER, *Commissioner.*

FORMATION OF DICKINSON COUNTY.

Dickinson county was formed by a special bill of the State legislature, taking effect Oct. 3, 1891. Consisting as it does of the remote and least settled part of what was formerly Menominee and other counties, the number and condition of its schools outside of the two cities of Norway and Iron Mountain compare unfavorably with the same of most of the other counties in the State.

NUMBER AND SIZE OF SCHOOLS.

In only two of the eight districts are more than one teacher employed. About half of the schools, comprising the more remote districts, have only from six to twelve pupils during the winter months.

CONDITION OF BUILDINGS.

Being mostly new buildings, they are in fairly good condition, and as well supplied with heat and light and ventilation as the average country school. The sanitary conditions in regard to water supply and out-houses are fairly well observed.

GRADING OF SCHOOLS.

The teachers being for the most part either inexperienced or from other States and transient, there has been little uniformity of grades, etc. The pamphlets containing the course of study for country schools were distributed among them last year, and the commissioner's purpose is to secure greater uniformity.

TEACHERS' MEETINGS AND INSTITUTES.

The only gathering of teachers for mutual benefit and instruction thus far has been the annual meeting of the Range Teachers' Association, held annually. These have been largely attended and successful the last two years. Papers are prepared on assigned subjects and discussions follow. The meetings continue through two days.

The first of the county institutes will be held this fall jointly with Iron county. Notices have been sent out to all the teachers-elect, and a full attendance is hoped for.

QUALIFICATIONS OF TEACHERS.

The average standing of applicants has been low, due largely to the fact that a majority of them have been common school and high school pupils. The standard has been higher than in former years, and it is the policy of the present Board of Examiners to make it still higher.

GENERAL.

The outlook for the coming year is for some reasons discouraging owing to the extreme depression of business, especially in the iron producing district, because of the removal of many families, the destitution of many remaining, and the low condition of funds.

The commissioner realizes that there is great chance for improvement in the country schools, and purposes to devote more time and work to its accomplishment.

Iron Mountain, Mich.

EATON COUNTY.

J. L. WAGNER, *Commissioner.*

VISITATION OF SCHOOLS.

Eaton county having one hundred and seventy schools under the supervision of the county commissioner, it is at once evident that much time is required to comply with the requirements of the law in visiting schools.

During the year over three hundred official visits have been made by the commissioner, much time and care have been taken to aid teachers in grading pupils and schools, and in the proper methods of instruction,

in many cases spending a day or two in a single school; although several teachers were discharged during the year, no certificates have been revoked or suspended.

TEACHERS' INSTITUTES.

During 1892 Eaton county was favored with an exceptionally good institute, and its influence upon teachers was very marked, teachers remarking many times during our visits that they never before received so many things which they could put into practice in the actual school work. It was a noticeable fact, too, during the year that, with few exceptions, the teachers who were in regular attendance at the county institute and did the work laid out by the conductor and instructor, were the most successful teachers and gave the best satisfaction.

GRADING OF SCHOOLS.

Four years ago when 8th grade examinations were held, twelve candidates presented themselves, and this year one hundred thirteen, showing conclusively the very beneficial and awakening influence the graded system is having in this county.

TEACHERS' ASSOCIATION.

This county holds each quarter one teachers' association which is attended by from 100 to 200 teachers; it has funds enough to hold annually a two weeks' institute. This aids very materially in awakening a warm feeling toward the public schools of the county, making it a matter of pride to see our schools, as we think, moving in the front ranks of Michigan schools.

Charlotte, Mich.

GOGEBIC COUNTY.

J. S. MONROE, *Commissioner.*

SCHOOL APPARATUS.

Our schools were never in so good a condition as they have been during the past year. The school boards in all the districts have done all in their power to secure good teachers and all the necessary materials properly to carry on the cause of education, and have had abundant means to meet every obligation. I cannot see that anything is needed to fully equip our schools.

SICKNESS.

One thing alone is to be deplored, and that is the sickness that has prevailed in our county during the past school year. In the township of

Wakefield and in the city of Ironwood, we have suffered from scarlet fever which became epidemic and closed the schools for several weeks.

And again about the first of May, 1893, one of the most alarming epidemics of typhoid fever that any locality in our State ever suffered from, visited the city of Ironwood, closing the schools of the city for more than a month before the end of the term. The epidemic seemed to start with the children, and in the early part of May there were at least sixty children of school age suffering with the disease. Several of the teachers were stricken down and, as above stated, the schools were closed.

VISITATION OF SCHOOLS.

It has generally been the custom of the commissioner to visit the schools in the county during the months of May and June, and during the past year he was about to start out on this mission when the epidemic broke out; among the first to be taken down with the same were his two children, which cause and the fact that his attention was needed not only in his own family but by many others who were in great need of care and attention, made the commissioner unable to leave the city to perform this important duty, very much to his regret. Being unable to secure an assistant to aid him, he is sorry to report that no schools were visited during his last year in office.

He would also report that the work of the past year has not been a very pleasant one on account of the schools in the city of Ironwood having no special law authorizing them to license their own teachers. Many special teachers were hired, and the matter presented great difficulty to the commissioner regarding certificates. Special legislation was given us, however, and there is nothing to prevent in the future a ful compli ance with the law.

Ironwood, Mich.

GRAND TRAVERSE COUNTY.

GEO. W. McWETHY, *Commissioner.*

GRADING OF SCHOOLS.

In submitting the following report there are some items I can mention with pleasure, especially the hearty coöperation of the teachers in the work of grading our schools.

The teachers seem to enjoy the work, as it leads to better methods in their school work.

The pupils take the full course of study as laid down in the manual, while formerly arithmetic and geography was as far as we could induce them to go in a majority of instances. We have graduated twenty-eight from the eighth grade.

VISITATION OF SCHOOLS.

As commissioner I endeavor to visit every school each term. Have visited every school twice, many of them three times, with the following results:

1. The teachers' methods of instructing and the work of grading are getting uniform in the different schools.
2. Thorough acquaintance with the work of each individual teacher.
3. Ability to recommend suitable teachers for the different schools.

SCHOOL APPARATUS.

Our schools are usually well supplied with apparatus.

TEACHERS' INSTITUTES.

The attendance at our county institute was not large and not enough attention given to methods in primary work.

UNIFORMITY OF TEXT BOOKS.

Lack of uniform text books hinders our work of grading. I see no way of making them uniform only by adopting free text books; but only six districts in the county have made this change or can be induced to do so. This I urge upon every school board, the placing on the teacher's desk of a set of books adopted by the district for the teacher's use, so that it will not be necessary for the teacher to borrow the children's books during class work or to prepare lessons for the following day's work.

Traverse City, Mich.

HILLSDALE COUNTY.

W. H. FRENCH, *Commissioner.*

SCHOOL APPARATUS.

There is a healthy sentiment growing in respect to the needs of the school room. Quite a number of districts are well supplied. We need several new houses and many houses need reseating. When this is done we shall expect more money for apparatus.

UNIFORMITY OF TEXT BOOKS.

We have recommended that a certain set of books be used, and about one-third of the schools are now using them. Many more are in favor of it and will change this fall. I expect to accomplish the feat before long.

TEACHING PATRIOTISM.

Over many of our school houses "Old Glory" floats, and the teachers, in general, are careful to give good instruction on this subject.

OBSERVANCE OF SPECIAL DAYS.

But few of our schools give much attention to these days. A few observed Arbor day, quite a number Memorial day, and that is about the extent. There is chance for work in this direction.

KINDERGARTEN METHODS IN PRIMARY GRADES.

None of our districts have made any special provision for this kind of work. I have found such work done in a limited way in about 25 schools. I think our teachers are aware of its value and I look for more of the work in the future.

TEACHERS' INSTITUTES.

The institute of last year was a success and was the means of stirring up a sentiment in favor of them. Many of our teachers are indifferent, some are absolutely opposed to institutes, but I look for a good attendance in August. We have had two county associations and five township meetings which have been well attended and an excellent interest manifested.

REFERENCE BOOKS AT SCHOOL HOUSES.

Not more than 2 per cent of our rural districts have any books aside from a dictionary. We are sadly deficient in this respect.

BEAUTIFYING SCHOOL GROUNDS.

Fifty per cent of our school grounds are well kept, shaded, and neat.

VISITATION OF SCHOOLS.

Every school in the county has been visited and a part of them two or three times. I am of the opinion that the quality of work done is steadily improving. Many of the districts hire their teachers for two terms in succession and quite a number by the year. The average amount paid this spring is about twenty dollars per month.

GRADING OF SCHOOLS.

One hundred forty pupils have taken the 8th grade examinations, and 83 passed creditably and have received diplomas; 34 tried the examination this spring and 18 passed. This work has been the means of arousing many of the pupils and patrons.

I am encouraged with the outlook and shall endeavor to continue the struggle next year.

Hillsdale, Mich.

HOUGHTON COUNTY.

A. D. EDWARDS, *Commissioner.*

As per instructions I herewith present my manuscript report, which is of necessity very short, as I have but little to add to the statistical report.

SCHOOL APPARATUS.

Our schools are well furnished with apparatus; in fact each school has all or, in some cases, even more than the district can afford or the school use.

UNIFORMITY OF TEXT BOOKS.

There is not much uniformity of text books. Each principal has his own peculiar liking, and the boards have indulged him, so there is quite a range of authors.

OBSERVANCE OF SPECIAL DAYS.

All special days are observed in patriotic style.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Kindergarten work is taught, or carried on along with the regular work in most of the schools.

TEACHERS' INSTITUTES.

We had an excellent institute last summer, the results of which have been well shown in the better work done this year.

REFERENCE BOOKS AT SCHOOL HOUSE.

The work of securing reference books in most of the schools is well under way, and the results prove the wisdom of making this extra expense.

BEAUTIFYING SCHOOL GROUNDS.

Owing to the rocky and barren nature of our soil, not much can be done in tree planting to improve the grounds. Most of the buildings have well-fenced, commodious play grounds, which is all that can be done in this line.

GENERAL.

The schools of the county as a whole are doing well. While there is occasionally one that needs improving, there are many that are doing the very best work and only need to be gently stimulated to keep them up toward the top. The examination questions of late have greatly puzzled some of the poorer teachers and they have been compelled to give up teaching, much to the betterment of the schools.

In closing I must say that I am proud of the schools of this county and believe that the liberal support given them by the taxpayers is mainly well invested, the results of which will be seen in the rising generation by giving us citizens with high ideals of what it is to be an American citizen.

Atlantic Mine, Mich.

HURON COUNTY.

E. BASKIN, *Commissioner.*

During the past year our time has been devoted exclusively to school work. Special attention has been directed to perfecting the grading of the schools and inducing school boards to provide suitable buildings and apparatus.

VISITATION OF SCHOOLS.

I have visited each of the one hundred and eleven schools in the county one or more times, making in all two hundred and nine professional visits in the year. I am pleased to report that I find the schools much improved in discipline and methods of instruction.

GRADING OF SCHOOLS.

To facilitate the grading, promotion examinations have been held in all the district schools of the county. The questions used at these examinations are furnished by the commissioner and conform to the system of grading recommended in the State manual. Graduation examinations have also been held this year, resulting in the granting of seventeen diplomas.

The results of the examinations and other efforts at grading have been entirely satisfactory and, were it not for the annual influx of inexperienced teachers, our schools would soon be uniformly and properly classified.

SCHOOL APPARATUS.

Many schools have put in new apparatus this year, and a number of others have agreed to do so the coming year, so that the prospect for well furnished schools in the near future is very encouraging indeed.

UNIFORMITY OF TEXT BOOKS.

Want of uniformity of text books for the county and the district has occasioned much unavoidable annoyance and expense both to teachers and patrons. Several districts have free text books. This method insures uniformity for the district and has other good features to recommend it.

TEACHING PATRIOTISM.

Aside from the singing of patriotic songs and the observance of special days, no effort has been made to teach patriotism.

TEACHERS' INSTITUTES.

The institute this year conducted by W. N. Ferris was one of the most successful ever held in the county. The institute is not, however, in good repute in this county, the general impression being that, all things considered, it costs too much money.

BEAUTIFYING SCHOOL GROUNDS.

We purpose during the ensuing year to give special attention to the school grounds. While a few of them are in excellent condition, the majority need fencing, grading, or draining. A number of the schools observed Arbor day by planting trees and making flower beds.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Kindergarten methods are not used to any extent except in some of the graded schools.

GENERAL.

On the whole the schools have made very satisfactory progress during the past year. The enrollment has increased; the average attendance is better; salaries are higher; and the school terms are longer. It is a difficult matter, however, to get the majority of the people to take very much interest in the school, notwithstanding the fact that there is no other public institution more worthy of patronage, and none in which they should feel and manifest a deeper interest. The public schools of today contain the future citizens of this great nation, and not only their individual success in life, but the welfare of the nation as a whole, depends upon the advantages we give them for becoming intelligent men and women and good citizens.

Ubly, Mich.

IOSCO COUNTY.

J. K. OSGERBY, *Commissioner.*

GRADING OF SCHOOLS.

In accordance with your request I submit this report of my work and observations as county commissioner of schools.

Having become familiar with the condition of the schools of this county, my first aim on assuming the duties of county commissioner of schools last December, was to establish in each school where it did not exist, some system for progressive work—system embracing, first, the adoption of a classification register and a course of study; second, certificates of promotion for pupils on finishing each grade of the course, and diplomas for pupils who complete the entire course; third, complete records of each pupil's work, and reports and recommendations to successors by each teacher; fourth, reports from teachers to parents and to the county commissioner.

As no system, hower perfect, can succeed without the coöperation and skill of those who are to use it, meetings of the teachers were held for the purpose of mutual information and aid in securing the success of the plan. It is gratifying to note the heartiness with which the majority of our teachers entered into the scheme, and the genuine progressive spirit manifested among them. Meetings of the patrons and "district fathers"

were also held, and the needs of our public schools were publicly discussed. I verily believe that the solution of many vexed questions of school work and influence may be found in this process.

SCHOOL APPARATUS.

Our schools are supplied with apparatus for use in the higher grades and in many cases it is expensive apparatus; but, excepting the village and city schools, they are lamentably deficient in simple primary, but far more necessary, apparatus. In order to correct or to improve upon this condition of things, a list of suitable material for primary work was prepared and sent to each district school teacher and director.

TEACHING PATRIOTISM.

Wherever thoroughly American teachers are employed, patriotism is taught by the most effectual means—the spirit of the teacher. A number of teachers have prepared special exercises in this line, and with the proceeds from public exercises purchased flags for their respective school houses. Columbus day was observed by the schools throughout the county. A number of the schools prepared floral offerings and in various other ways took part in the exercises on Memorial day. These are some of the evidences of patriotic sentiment among our teachers and within our schools.

UNIFORMITY OF TEXT BOOKS.

The text book question is an unsolved problem in a few of our schools. Two districts have free text books; four others furnish books to pupils who are unable to buy them. Harpers' books are quite generally used throughout the county, and with sufficient uniformity to secure good results in all but a few instances.

OBSERVANCE OF SPECIAL DAYS.

Aside from the "special days" mentioned above, about one-half of the schools observe with appropriate exercises other days, with good effect. The idea of observing author's days and historical days is gaining favor rapidly.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Outside of the villages and cities, kindergarten methods are rarely met with in the schools of this county.

The teachers' meetings and county Teachers' Association have, during the past six months especially, endeavored to present and illustrate such methods, and a number of districts have come to the aid of their teachers by purchasing the material listed in my circular of last April.

TEACHERS' INSTITUTE.

The institute held in Tawas City last March was well attended by the district school teachers, and it was a profitable school to them. The fact

that more than half of the teachers of this county are employed in the cities and villages, the majority of whom are non-resident, makes it difficult to secure a full attendance during vacation; and, as some of the boards are opposed to closing for an institute and make trouble for teachers who take the privileges allowed them by the law, the matter of deciding upon the best time for holding an institute is not easy to settle. However, as the new law and the class system of institute work have greatly increased the desire for and the value of the institute, the prospects for the future are very encouraging; and it seems to me that, if our next institute can be held during the last week or weeks of August, 1894, both resident and non-resident teachers will be accommodated and results will be more satisfactory than heretofore.

REFERENCE BOOKS AT SCHOOL HOUSE.

The village and the city schools, which include nearly ninety per cent of the school children of this county, are well supplied with dictionaries, gazeteers, cyclopedias, etc. The only book of reference found in the other schools is a dictionary, and ten schools are without this necessary aid. I am in receipt of letters from school officers asking for the address of publishers and other information in regard to dictionaries, etc., and the prospect is good for better equipment in this line in the near future.

BEAUTIFYING SCHOOL GROUNDS.

Our school grounds are often in striking contrast to the attractive interior of our school houses. Interest in this matter has been awakened and in a number of instances pupils and teachers have removed obstructions, leveled the ground and planted trees in their respective school yards; but we are still far from our ideal in this matter.

East Tawas, Mich.

IRON COUNTY.

M. H. MORIARTY, *Commissioner.*

SCHOOL APPARATUS.

The schools of our county are well supplied with school apparatus, charts, maps, globes, and other things necessary for the better education of the pupils attending school.

UNIFORMITY OF TEXT BOOKS.

Iron county has not yet adopted any system.

TEACHING PATRIOTISM.

This is one of the things we endeavor to inculcate in the minds of the

pupils, and I believe there is not a school in our State that can outdo us in this respect.

TEACHERS' INSTITUTES.

We would advise holding institutes sometime during the school year, as few of our teachers remain in the county during vacation.

LIBRARIES.

All the higher schools of the county have excellent libraries, and all through the county much interest is shown in regard to all school matters.

OBSERVANCE OF SPECIAL DAYS.

In the schools of Iron county special day exercises are strictly held, and the pupils are made to understand the object of observing the same.

KINDERGARTEN METHODS IN PRIMARY GRADES.

The kindergarten method is used throughout the county, and the best teachers that can be had are hired for the little ones.

SCHOOL GROUNDS.

People of Crystal Falls have taken great pride in beautifying the school grounds; while in other parts of the county there is not quite so much pride taken in this matter, the same are kept neat and pleasant.

Crystal Falls, Mich.

JACKSON COUNTY.

D. E. HASKINS, *Commissioner.*

VISITATION OF SCHOOLS.

In completing my work for the year I can truly say I have worked for the advancement of the schools of our county and feel that they rank with the best in our State. Having visited nearly every one at least twice, I can see a great change for the better in our county. Grading our district schools and uniformity of text books has had much to do with their progress.

SCHOOL APPARATUS.

The apparatus of most of our schools is limited. As our teachers are more careful of what is placed in their hands to use, their patrons have more confidence in expending all that is necessary for their use.

TEACHERS' INSTITUTES.

We have had during the year two county teachers' institutes, one of two weeks and the other of one. Both created a great amount of enthusiasm and were well attended. But few of our teachers who were able to attend were absent, yet I still believe in compulsory attendance at institutes. During the year I held township institutes at a number of places, which were productive of much good, and I was able to reach many that I could not have done otherwise. The classification of institutes is a move in the right direction.

REFERENCE BOOKS AT SCHOOL HOUSE.

It would be better if each teacher's desk were supplied with a copy of the text book he is to teach, and as many books of reference should be supplied for the library as the means of the district can afford.

GENERAL.

It would be a proper move for all the commissioners to meet the State Superintendent before the school year commences and plan the work for the ensuing year and have it more uniform.

I conclude with many thanks to the Department of Public Instruction for its earnestness and assistance in the work, and hope that our schools may still advance rapidly in the future and become second to none in the United States.

Jackson, Mich.

KALAMAZOO COUNTY.

ASHLEY CLAPP, *Commissioner.*

TEACHERS' CERTIFICATES.

During the last session of the legislature some improvement was made in the limits of third grade certificates and age of teachers. The former stimulates some teachers to do more work with books and better work in their schools; the latter gives more mature candidates and will partially shut out the children that "play school."

TEACHERS' INSTITUTE.

Our institute was a success and demonstrated the fact that it is one of the indispensable sources of instruction and help for teachers.

RALLY DAY.

We are looking forward to "Rally day" with confidence that the outcome will be of advantage to the educational interests of the county. If we succeed in interesting the school officers and patrons and securing their attendance, success is certain.

GRADING OF SCHOOLS.

Although our most ardent hopes have not been realized in the grading of the country schools, we find a gradual improvement. Teachers are coming fully to understand the meaning and results of grading, and do the work in better time and manner. The irregularity of attendance of the pupils of an age to work on the farm in spring and fall, is the greatest bar to success in grading.

Kalamazoo, Mich.

KALKASKA COUNTY.

A. G. PIERCE, *Commissioner.*

VISITATION OF SCHOOLS.

The year has been one of steady, plodding work. All the schools in the county have been visited, many of them twice. We have an excellent board of teachers.

TEACHERS' INSTITUTES.

The State Teachers' Institute, the first week in April, was of great interest and largely attended up to the closing hour.

SCHOOL APPARATUS.

Twenty-eight of our fifty schools have globes, forty-two have maps, thirty-seven have dictionaries, all have blackboards, and only one schoolhouse in the county is without patent seats and desks.

GRADING OF SCHOOLS.

The schools are all graded according to the course of study mapped out in the State manual. Sixteen 8th grade pupils took the examination, May 26th, and ten of them passed and were granted diplomas.

PUPILS' READING CIRCLE.

Pupils' Reading Circles have been organized in about fifteen schools. Two pupils completed the course this term.

GENERAL.

With very few exceptions the text books are uniform.

We raised between seventeen and eighteen dollars toward the educational exhibit at the World's Fair. Some of our more progressive teachers give considerable attention to beautifying the school grounds, and three or four have secured flags.

Kalkaska, Mich.

KEWEENAW COUNTY.

ALFRED NICHOLLS, *Commissioner.*

In compliance with your request I transmit the following report respecting the condition of schools for this county.

During the two years of county supervision I have noticed a general toning up in school matters.

TEACHERS' INSTITUTES.

Last year we organized a teachers association, and found it to be one of the greatest helps. This year an institute was held at Central Mine, it being the only one held in this county since 1888, and it was a success throughout. The teachers expressed themselves as well satisfied with the manner in which it was conducted.

GENERAL.

Our schools are decreasing in number every year; this is owing to the fact that copper mining is the only industry of this county. The mines are deep and producing very little copper, consequently are fast stopping operations.

My work of this past year has been similar to that of preceding years, devoting my time and talent to the work in trying to elevate, if possible, the standard of our schools.

Central Mine, Mich.

KENT COUNTY.

A. HAMLIN SMITH, *Commissioner.*

SCHOOL WORK.

The work in our schools during the past year has been generally satisfactory. Special stress has been laid upon the following branches, viz: primary reading, language and letter writing, and geography. Mental arithmetic, in fractions and percentage, will be added to these during the coming year.

TEACHERS' MEETINGS.

We have held monthly meetings at six different points. Each local association is independent in the general management of its programs, etc., but all follow the same general line of work. Many of our teachers have attended these meetings, and the excellence of their work attests the help received.

SCHOOL APPABATUS.

The peculiarity of our laws regarding school apparatus makes it very difficult to supply schools. Certain apparatus is almost a necessity in a good school and still the law is so vague that many school officers hesitate to purchase those things that they feel are needed. It seems to me that the law should specify such supplies as dictionary, maps, globe, physiological chart, etc.

TEXT BOOKS.

Our text books are very generally uniform. It requires, however, constant watching to prevent the teachers' putting in some "pet" books. Three of our districts furnish free text books. Quite a number of districts furnish paper, pens, ink, pencils, etc., gratis, thus securing uniformity and continuity of supply.

OBSERVANCE OF SPECIAL DAYS.

Commencing with Columbus day, we have given quite a general attention to special days during the year. These are generally patronized by parents and others, and develop an increased interest in the schools.

TEACHING PATRIOTISM.

"Old Glory" floats at the mast-head in this county, and we shall continue to kindle the fires of patriotism in the breasts of the boys and girls.

REFERENCE BOOKS AT SCHOOL HOUSE.

Our schools are practically without any reference books. We are anxiously waiting for the recommendations of the State Superintendent concerning a reference library.

TEACHERS' INSTITUTES.

We believe in the institute. While it may not always be just what we desire, it is a powerful factor, almost the principal factor in the development of the country teacher. Instructors in touch with the country school, with the "tan" still perceptible in their work, are usually the most satisfactory to the country teacher. However, the country teacher enjoys and admires the white, classical, university fibre, although he may not emulate it. The division of the institute into sections is the only solution to the vexed question of how to fit the work to all. Having tried it in this county for the past three years, I feel prepared to pass an opinion upon it. We could not go back to solid session without losing some of the best results of the institute.

GENERAL.

Finally, I am pleased to say that the interest in our schools is still on the increase. Educational views are growing broader, more progressive

men are being elected as school officers, and an era of advanced school sentiment is upon us. "No step backward" is our motto.

Grand Rapids, Mich.

LAPEER COUNTY.

C. E. PALMERLEE, *Commissioner.*

PROGRESS OF SCHOOLS.

It is little that I can add to the statistical report, save that the general sentiment in favor of the continued improvement of the rural school has materially improved during the past year. I thoroughly believe the time is soon to come when the active interest shown in the country school shall equal that shown in the village and city school.

OBSERVANCE OF SPECIAL DAYS.

The observance of special days beginning with that of Columbus day in October and including Washington's birthday, Arbor day, and Memorial day, not only arouses greater love of flag and country, but the very observance brings people and schools much more closely together. The fact is that, in country school affairs, the needs of an education have not always been appreciated by those for whom the school is maintained. Any assemblage of officers, patrons, teachers, and pupils has a tendency to improve the willingness to equip better and to increase the demand for stronger teaching.

GRADING OF SCHOOLS.

Perhaps nothing has been of greater value than the improvement in the grading and the conducting of examinations for promotion or graduation from the eighth grade of the State manual of study. About forty were graduated in June, the greater number of whom will enter the various ninth grades in high schools during the coming year. I expect to see the number of graduates doubled during the coming year and a much better school attendance by such pupils as are able to do the more advanced work.

DISTRICT LIBRARIES.

The legislation of this year will all tend to improve the country school and especially that providing for the establishing of district school libraries. I shall hope that the reading for country boys and girls may receive some little attention from your busy department, and that each officer may be made to feel it his duty to provide the proper funds for adding a few simple volumes each year. The hearty coöperation of the school commissioners with the recommendations from your office, will at once arouse the feeling in favor of re-establishing the district library.

Lapeer, Mich.

LIVINGSTON COUNTY.

STEPHEN DURFEE, *Commissioner.*

I have been commissioner of schools but six months and, consequently, have but little data from which I could submit a report.

VISITATION OF SCHOOLS.

I have visited as many of the schools of the county as I could during the last six months and have found them doing very good work.

GRADING OF SCHOOLS.

Nothing has been done in our county toward grading the district schools, but I feel it is the proper course to pursue and shall direct my efforts toward that object during the coming two years.

Fowlerville, Mich.

LENAWEE COUNTY.

C. F. FIELD, *Commissioner.*

The year ending June 30, 1893, has been a fairly successful one with the schools of this county. Most of the schools have pursued the even tenor of their way without especial incident, and have done reasonably good work.

SCHOOL APPARATUS.

The city and village schools are well supplied with apparatus and educational aids of all kinds, but the country schools are not so fortunate. About one-half of them have maps and globes and some have reading, physiological, or geographical charts.

UNIFORMITY OF TEXT BOOKS.

Under this head I can only repeat what I said in my last report, that "The country schools under the attempt to introduce the graded system, have made great improvements in this particular." The tendency is towards uniformity. Many schools have practically already attained this desideratum; others are still pursuing the good old way of our fathers, each pupil having an arithmetic or reader different from all the rest. But the number of this latter class is constantly diminishing, and I look to see uniformity of text books general throughout the county in a few years.

TEACHING PATRIOTISM.

Some attention has been paid by many of our schools to cultivating patriotism in the rising generation, generally in the form of flag-day

exercises, or in connection with the observance of special days. Many schools have purchased a flag during the year and have made its first raising an occasion for inculcating a love of country in the breasts of the pupils.

OBSERVANCE OF SPECIAL DAYS.

The custom of observing special days prevails in most of our graded schools, and not a few of our country schools are falling into line. Columbus Day was very generally observed throughout the county, and many schools commemorated Washington's Birthday and Memorial day.

KINDERGARTEN METHODS IN PRIMARY GRADES.

These methods are gaining ground in our schools. Some of our graded schools have a kindergarten department, and nearly all of them have introduced the work to some extent in their primary grades. Many country teachers are doing a little in this line and there is a growing interest in the system.

TEACHERS' INSTITUTES.

Judging from the attendance at last year's State teachers' institute for Lenawee county, there is not as much interest in institutes as there ought to be, nor are they accomplishing such results as the expense and trouble of maintaining them would warrant. I am unable to suggest an adequate remedy for this condition, but if the Department of Public Instruction can devise a means for overcoming the indifference and general apathy of teachers towards institutes, it will have conferred a benefit upon primary education.

REFERENCE BOOKS AT SCHOOL HOUSES.

Well selected libraries and standard reference books are to be found at our larger graded schools, such as those at Adrian, Hudson, Tecumseh, Morenci, Clinton, and Blissfield; but in the country schools the only book of reference is generally a dictionary. Over 80 per cent of our schools have some sort of a dictionary, but I know of very few country schools that have anything else of this description. Some of our more enterprising teachers bring their own reference books and permit their pupils to use them.

BEAUTIFYING SCHOOL GROUNDS.

I am glad to note a growing tendency to improve the appearance of school buildings and grounds. Many teachers encourage their pupils to bring flowers and plants for the school room, and to make flower beds in the yards. Many schools observed Arbor day by planting one or more trees on the school grounds.

GRADING OF SCHOOLS.

The graded work is being followed more or less closely in most of the schools. Final grade examinations were held in February and May, upon

questions furnished by the Department. At the last examination less than 35 per cent of the candidates for graduation succeeded in passing a satisfactory examination. The papers submitted to me at this examination reveal the fact that the work done in many of our country schools lacks the quality of *thoroughness*; but I believe that the graded work, if conscientiously followed for a few years, will very largely remedy this defect and render the district school as efficient in primary education as the graded schools.

GENERAL.

In general it may be said that the common schools of Lenawee county are in a healthy condition and are gradually improving.

During the past year I have held about a dozen local teachers' meetings at all of which much interest was manifested and, I think, some good accomplished.

Tecumseh, Mich.

MANISTEE COUNTY.

MRS. L. E. W. HALL, *Commissioner.*

SCHOOL APPARATUS.

The county is not in a condition financially to supply school apparatus for successful teaching.

UNIFORMITY OF TEXT BOOKS.

Uniformity of text books is quite general.

TEACHING PATRIOTISM.

Patriotism is generally taught.

SPECIAL DAYS.

These are not observed in all of the schools.

KINDERGARTEN METHODS IN PRIMARY GRADES.

They are being introduced gradually. Parents must be educated, as some consider it time wasted.

TEACHERS' INSTITUTES.

Teachers' institutes have been very successful in our county, as we have had practical educators.

REFERENCE BOOKS AT SCHOOL HOUSE.

Reference books at school house are found in four of the village schools.

BEAUTIFYING SCHOOL GROUNDS.

Some attention is paid to beautifying the grounds. It takes any amount of talking to get them in order for beautifying.

GENERAL.

The sanitary condition of the county is all I could possibly expect. The teachers, together with the pupils, have made wonderful improvements. The reading circle is probably considered a fizzle in this county. The teachers choose and read for themselves. Many were preparing for school; but in place of this reading, music has taken a very prominent part in the schools. Quite a number of the schools are furnished with musical instruments, and some thirty-five of the teachers are capable of giving instruction. I think music in the school has more controlling power than the rod. During the past year Manistee county has had a better class of teachers than the three years previous.

Manistee, Mich.

MARQUETTE COUNTY.

J. B. MONTGOMERY, *Commissioner.*

GRADING OF SCHOOLS.

The schools of Marquette county are progressing, not only in the efficiency of the instruction given, but in the line of gradation and classification as well. School boards, as a rule, are careful in the selection of their teachers, willing to pay them good wages, and retain them as long as mutual satisfaction is given. Under such favorable conditions, one naturally looks for good results; and we are pleased to say for Marquette county that she has realized a fair degree of prosperity.

The decline in the iron market, however, has had its effect upon the schools, producing uneasiness all over the county. People are moving from place to place in search of work, thus causing a promiscuous loss and gain of pupils and a corresponding mixture of grades and classes, which has been more or less discouraging. Nevertheless we are going to pull through and the banners of progress shall continue to float over our county.

SCHOOL APPARATUS.

The schools are nearly all supplied with maps, charts, globes, and all the necessary appliances of a well regulated school.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Kindergarten methods in primary grades are quite generally employed, and kindergarten occupations carried out as far as seems practicable in district schools; but in our city and town schools, kindergarten receives quite a prominent place in the school curriculum and the results are very encouraging.

TEACHERS' INSTITUTES.

Our institutes are usually well attended and very successfully managed. This year the board of examiners thought it advisable to recommend a postponement of the regular annual institute for Marquette county until August, 1894, in order to give teachers an opportunity to attend the World's Fair as long as possible.

REFERENCE BOOKS AT SCHOOL HOUSE.

School boards are willing, in most cases, to supply all the reference books, maps, charts, etc., required.

SCHOOL HOUSES.

The country school buildings are of all grades and conditions; they are all supplied with an abundance of good fuel and, as far as I know, are warm enough. Very few of them have a better way of ventilation than the simple process of lowering windows or opening doors.

In our city and town school buildings we are brought face to face with some of the finest structures of their kind in the State; they are up to date in all modern improvements and abundantly supplied with reading tables, reference libraries, physical and chemical apparatus, and as fine a class of teachers as can be secured.

Champion, Mich.

MASON COUNTY.

E. P. BIDWELL, *Commissioner.*

SCHOOL APPARATUS.

I found the schools quite generally well supplied with school apparatus, some small districts with only six or eight pupils enrolled having a full set of maps and charts, an expensive globe, and other appliances that were apparently of no use to the school except to occupy valuable space in the room. I am of the opinion that much of the so-called school apparatus is of little value in the ordinary district school.

UNIFORMITY OF TEXT BOOKS.

Text books are uniform in nearly all of our schools. A number of districts have adopted free text books with excellent results.

TEACHING PATRIOTISM.

During this Columbian year, our teachers have given special attention to teaching patriotism. The interest awakened by the observance of Columbus day has not been allowed to decline but, encouraged and nurtured by the earnest teacher, has resulted in the purchase of quite a number of beautiful school flags. National songs are taught in almost every school.

OBSERVANCE OF SPECIAL DAYS.

A few of our best teachers have special day exercises, but they are not general.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Kindergarten methods in primary grades have made little progress in this county. A few teachers use them in a limited way.

TEACHERS' INSTITUTES.

Our last teachers' institute was well attended by our district teachers. The practice of allowing teachers their wages during attendance at institutes, meets a great deal of opposition among the farmers. They claim that it is not right for them to pay a teacher for *learning* a business which she is presumed to understand when she receives a certificate. It gave better satisfaction last year to hold our institute in August, before the school year began.

REFERENCE BOOKS AT SCHOOL HOUSE.

The only reference book found in our schools is the dictionary. Nearly all schools are supplied with that.

BEAUTIFYING SCHOOL GROUNDS.

No attempt has been made to beautify the school grounds in a majority of the districts. Occasionally a few shade trees have been set out, but usually school grounds are bare of all adornment.

QUALIFICATIONS OF TEACHERS.

One serious drawback to our schools is the frequent change of teachers in many of the districts; but, as teachers become better qualified and public sentiment more enlightened, this evil will disappear.

Believing that the vital element in a school is a live and progressive teacher, the board of examiners has held the standard of qualification high enough gradually to weed out incompetent teachers and make room for those who are able and willing to meet the demands of the times.

GENERAL.

In general there has been a marked improvement in the character of the work in our schools during the past two years. With a single exception

every teacher in the county has been faithfully working to the course of study as outlined in the State manual, and the results have been most gratifying. While we have not been able to follow the manual in every particular, the fact that teachers have had a guide as to the amount of work to be done during the year, has been a wonderful stimulant to them in their work.

The test examination by the commissioner at the close of the year and the grade examination questions sent out by the department as a test for diplomas, have also resulted in thorough work in all grades. I issued thirty-two diplomas this year and several of the graduates have since passed the teacher's examination and received certificates.

Scottville, Mich.

MECOSTA COUNTY.

P. M. BROWN, *Commissioner.*

UNIFORMITY OF TEXT BOOKS.

In this county of one hundred three schools, over eighty-seven districts use Harper's series mainly. Two years since the question of free text books came directly before the people, but few districts took any interest in the plan.

GRADING THE SCHOOLS.

This has been a fine success in this county. Better this year, by far, than ever. Early in the year, I issued a circular to each teacher, asking how many in each school would make an effort to pass the eighth grade and write for the diploma. Replies from this circular showed that there were eighty who desired to write. Sixty-three of this number were successful in passing the grade. Nothing in my work has pleased me more than to note, in examining their papers, the evident pains taken by teachers and pupils to have their manuscripts neatly prepared as well as to be able to give an intelligent answer to many of the questions. I think the habit of having timely written examinations in lower grades has proved a material help in this direction. Our township meetings in the fall, at which time we could discuss ways of overcoming difficulties, were very helpful.

I must not be understood to convey the idea that everything in this work has been satisfactory. It has not been. Many things have occurred that have had a tendency to discourage the teachers; yet I am thoroughly of the opinion that grading, wisely directed, is one of the best things yet attempted for the benefit of our schools. And I am led to this conclusion by comparing it with some years' experience in ungraded schools. The graded questions and two stated periods for examinations, were well received and have proved a very timely improvement on my previous work.

TEACHERS' INSTITUTES.

For twelve years we have held an annual institute and the teachers have done well in attending it. This year, in view of the fact that the Industrial School furnishes us with an institute of high order in session continuously, we determined with the consent of the State superintendent to omit the institute and let the teachers seek other methods of increasing their ability to do well.

LEGISLATION.

We do not pretend to say that our schools and their management cannot be improved by legislation. At present our laws which regulate our schools are fairly good. There is more or less danger of making them worse. In view of this, I think the people in general are well pleased with brief legislation.

TEACHERS.

One factor, I believe, that makes our schools so good, is the faithfulness of our teachers. Occasionally I visit a school and find a new teacher, a stranger. But no matter from what school, from what part of the State, north, south, east, or west, if she has had some experience in the work, she seems to know how to do well and does it. The motto of each seems to be "Who shall do best?" Michigan State teachers stand in the front rank for usefulness.

BEAUTIFYING SCHOOL GROUNDS.

Nearly all the school buildings, surroundings, and apparatus within, are fairly good. Some, quite a number, are extra nice; but a few are loosely managed throughout. It is just with school districts as with farmers. While most farmers are thorough and keep things up square, you will find occasionally one that lacks every thing, nothing in order.

THE PROBLEM OF TODAY.

Some pupils never have books enough, are very irregular in attending school, and consequently have very little interest in the work. How to make good soldiers out of material found in stragglers, or how to make the few as good and prompt as the many, is the problem that confronts us.

Big Rapids, Mich.

MENOMINEE COUNTY.

J. W. BIRD, *Commissioner.*

LOCATION.

Reckoned by miles, we are away off in the far distance; but reckoned by convenience for traveling, we are along side trade centers and summer

resorts. Railways and great ships invite us to travel and they carry our rich products to less favored peoples.

Our county forms the southern triangle of the odd shaped upper peninsula. Topographically we double discount all counties laid out in the checkerboard style.

The waters of Green Bay bathe our southeastern edge, while the Wild-rice river defines the sinuous line that separates us from our sister state of Wisconsin. At the north we have nothing but common straight lines for boundaries. At the southern apex sits Menominee, proud of her position as the outlet of some twelve hundred square miles of forests and farms, of rivers and roads, of churches and schools, and a queen of lumber markets.

GRADING OF SCHOOLS.

This city has a graded school where thirty-six teachers are employed. Seven classes have been graduated from a curriculum that entitles this to rank as an accredited school.

Good health is the rule here, and therefore the juvenile cry for more school room comes often. The demand is met with a happy zeal. Menominee is justly proud of her schools, her corps of teachers, and of the excellent work accomplished.

POPULATION.

The people of this county are largely foreigners—mostly Scandinavian and French—and the patrons of the schools, when at their homes, talk in their native tongue. The mothers, especially, do not learn English very much, and they are timid about using what they do know lest they make mistakes. It would be better if both fathers and mothers would learn the English and speak it too. Let the children learn the Swede or French or other language at home, and the result would be that parents and children would all be able to converse in two languages—a great gain at small expense.

I visited one school of some twenty-five pupils, and among them all was but one little girl who could speak a word of English, and her vocabulary was limited to a few nouns. The teacher knew only English. By the end of the first year they had mastered one or two of the small readers, though they would spell wine with a "v" and vinegar with a "w," and father, mother, the, this, and that, with "d's."

In several of our forty-four schools, English is so little known that drill in phonics and exercises in the most primary language lessons, constitute the main part of school work. Phonic drill is our corner stone. These schools advance well in the work which they must needs do, but they do not fit well into our State course of study, nor into the county graded system, which is the present school ideal.

SCHOOL APPARATUS.

The school spirit in this county is excellent. The school tax, often very high, is willingly paid. When one finds a neighborhood of small farms in the midst of heavy forests, and, upon a choice acre in a central location, a log schoolhouse built by voluntary labor, whitewashed within to rival the

White City, with patent desks, a globe, charts, maps, and free books; with a teacher who is able to hold a good certificate, who loves her pupils and who lives for them—he may well feel that our country has a future and that the pillars whereon she stands are being well formed and strongly built.

IMPROVEMENTS.

Better environments come in time, more advanced studies, a graded course, lectures, etc., etc.; but through it all there runs a preparation for good and useful lives, for good citizenship, for good manhood and good womanhood. With these ennobling thoughts permeating and dominating the school work from the first day in the little log school house, or the "little red school house," to the last day at school be it ever so high, what wonder is it that statesmen and philosophers see in our free public schools the safety of the republic.

TEACHING PATRIOTISM.

Little boys and girls soon come to feel that they are stockholders in the school, in the district, and in the country. There comes to these little men and little women a loyalty that will be stronger and stronger as the years go by. The finished product for our schools is the broad-minded, earnest, private citizen, the American sovereign.

PROGRESS OF SCHOOLS.

At Stephenson three teachers are employed, a course of study has been adopted, and the good results of this work are apparent.

Hermansville, Spalding, Nadeau, and Ingalls have two teachers each, and they have taken the initial steps for a graded school.

Many schools where there is but one teacher are quite well classified; but in others where the main work is to give young pupils their first lessons in English, our State course of study has but a limited foothold.

We have not had a magic growth, nor have we donned such wisdom as to prove that all that our forefathers knew was foolishness; but we are toiling on. We work together. We all pull the same way. We are united in trying to make our schools better, and for myself and for the officers and patrons of our schools, I would say that, with a firm reliance upon God who has vouchsafed guidance to those who trust Him, we will labor on, hoping that the sowing may have approval in the harvest.

GENERAL.

We have all of the kinds of politics that we have ever heard of. We have representatives of about all of the living nations named in our geographies. We have religious creeds not a few. Some of our people have much religion, some are strong in theology, and some abound in sectarianism. Many do violence to the fourth commandment by working on the Sabbath day. Others do violence to the same commandment by not working on the other six days. We are a Mosaic in all of these things, but when it comes to our schools, we are a unit.

Our rules gleaned from the letter and spirit of the laws of the State crystallize into about these forms:

1. Honor God and obey his laws.
2. Love our country, obey her laws, and if need be defend her.
3. Live by the "golden rule."

All the churches and all good people can stand on this platform; and, if our teachers bring their pupils fully up to this standard, they will have met the end whereunto they labor, and theirs will be a rich reward.

Menominee, Mich.

MIDLAND COUNTY.

CHAS. L. JENNEY, *Commissioner.*

GRADING OF SCHOOLS.

The year just ending has shown a good improvement in the schools of this county. Grading, or classifying, has gone quietly along. The grade examination held in May has had a great effect in arousing the enthusiasm of a large class of pupils and awakening the parents more fully to the importance of more regular attendance. Sleepy and indifferent school boards are begining to rub their eyes and yawn, then wonder what it is they are doing nowadays in our schools.

Teachers are preparing themselves for better work. Taking more educational journals and striving to keep up with the times.

The standings of the pupils in the grade examinations of the country schools are equal to the same grade in many of our high schools and will soon excel.

TEACHERS' INSTITUTES.

Our county teachers' association is in a flourishing condition. They have held two sessions the present school year.

Teachers' county institute for this year has not yet been held. It is called to begin August 28.

UNIFORMITY OF TEXT BOOKS.

There are a variety of text books in the county, but generally they are uniform in the schools.

GENERAL.

I have about come to the conclusion that one of the greatest hindrances to a greater progress in our schools is our school boards. Incompetency, indifference, and selfishness is prevalent to a great extent in a majority of cases.

In my opinion this could be remedied by the township unit system. By placing the schools of a township under the management of one board,

better results would be obtained with less expense, or at least no greater. A more uniform system would be established and better and more competent persons would have the management.

I find the people are more awake to the needs of rural schools. Therefore, give them the management that will meet these demands.

Midland, Mich.

MISSAUKEE COUNTY.

GEORGIA ROCHE, *Commissioner.*

UNIFORMITY OF TEXT BOOKS.

Thirty-one districts in this county furnish free text books, and I believe much to the advantage of the schools. In these districts, with but few exceptions, the books are in good condition and the work of grading has been very materially aided. In fact, I doubt very much if the work of grading could have been as satisfactorily accomplished without the aid of free text books.

SCHOOL APPARATUS.

A majority of our schools are fairly well supplied with good blackboards and needed apparatus. Some having everything necessary. I have found school boards very liberal in furnishing supplies.

TEACHERS' INSTITUTE.

Our institute was held during Thanksgiving week, conducted by Deputy Supt. Hugh Brown. The institute was very successful as to attendance and instruction. Teachers expressed themselves as well pleased with the work done.

GENERAL.

During the year I have visited all the schools in the county except one, twice, and many of them three times. Very little had been done in the matter of grading previous to the time I took the office two years ago.

A copy of the State course was placed in the hands of each teacher and an attempt made to fall into line with other counties in the State. In this work I feel we have been quite successful. The plan met with very little opposition from school boards. Teachers took hold of the work with a will, trying to improve and glad to receive and act upon any suggestion leading to the advancement of their schools in any way. An eighth grade examination was held May 27. Ten candidates presented themselves, of whom but four received diplomas; but all felt that they were greatly benefited by the examination. School boards are more particular in the selection of teachers, and many are hiring for the year. On the

whole, the work of the year has been very satisfactory. Our plan for the ensuing year is to carry out the work already begun.

Lake City, Mich.

MONROE COUNTY.

T. E. ALLEN, *Commissioner.*

BEAUTIFYING SCHOOL GROUNDS.

All changes made in the school houses during the year have been in the line of progression. There are but few school lots that are not fenced, and many are being beautified by grading and setting out shade trees. As a means to excite an interest in the setting out of trees, I told the pupils of the schools last spring that I would include in the report to the Superintendent of Public Instruction the names of the three school districts whose pupils would set out and care for the largest number of shade trees. This has been a very severe summer on freshly planted trees, and unless this interferes I expect to report much progress in this line next year.

PROGRESS IN GRADING.

In the work of grading, our schools have done much better than I dared to hope for at the outset. Where the right sort of a teacher took hold of the work, no trouble has been experienced. There are but few schools that have not been graded fairly well, and I am determined to get the teachers out of the field who have not enough interest in the work to grade their schools. At the grade examination last April, nine pupils graduated with honor. Three of our graduates are now teaching with marked success.

TEACHERS' EXAMINATIONS.

"Ah, there's the rub!" What will we do to put the incompetent teachers out of the schools, and how keep them out? How can we fix the meshes of the examiner's drag net so as to let only good teachers get certificates? I think all school men will agree that every teacher ought to have some professional training under a good normal instructor, or at least to have spent some years reading the works of recognized educators, before he assumes the responsible position of instructing children. It is a mistaken idea that schoolboys and schoolgirls are competent teachers as soon as they have acquired the necessary knowledge of the text books. Thomas Hunter once said: "It would take school boards a long time to learn that teaching school is a trade, a profession, like watchmaking, navigation, or medicine. All the learning of Lord Bacon would not enable a man to make a watch, unless he had first practiced the trade; all the science of Isaac Newton would not impart the power to navigate a ship, unless the captain had previously learned the art of seamanship; and the learning of

both combined would not enable a man to teach a district school and attain the object for which it was designed, without a careful study and practice of the principles of teaching." This being true, would it not be well if the Department of Public Instruction would give more prominence to the examinations in the subject of theory and art of teaching? Every thinking board of examiners knows that the present system is flooding the country with inexperienced teachers. It presents the school boards with the temptation to hire the cheapest teacher that offers his services, and in this way helps much to keep the backward districts backward still. I am ready to admit that the teachers are getting better qualified in the increased knowledge of this subject, as in other school subjects, but are we doing the best possible? The matter is an important one.

TEACHERS' ASSOCIATION.

The present is the second year of our county teachers' association, and the attendance and the interest taken has been very good. It shows the wide awake teachers of the county. I very much regret that many who need the benefit they would get at these meetings are always conspicuous by their absence, but this is the last year of their probation. Our county teachers' institute for this county was conducted by Prof. D. A. Haskins and Supt. Cheever, and I think State Supt. Pattengill will bear me out in saying that we had a good institute. I can see the effect of the work of the instructors in the better work of the winter schools.

GENERAL.

During my visits and my talks at teachers' meetings, I am endeavoring to impress on the teachers the necessity of doing more teaching and less hearing of recitations. The greatest fault of our teachers is the one of confining the class work to hearing pupils recite text book lessons which have been committed to memory. I am trying to persuade the young teachers to go to the blackboards and do more teaching; encouraging them to adopt more of the "topic method" of instruction; combining the subjects of geography, history, and civil government to a considerable extent; using blackboard illustrations and sketch maps to locate the historical events and impress them on the mind by association. We will try to keep the ball rolling.

Monroe, Mich.

NEWAYGO COUNTY.

WILLIAM E. GOULD, *Commissioner.*

VISITATION OF SCHOOLS.

In explanation allow me to say that, from July 1, 1892, to January 6, 1893, Mr. C. W. Gardner was commissioner, and on January 6, 1893, the board of school inspectors appointed me to fill the vacancy caused by the resignation of Mr. Gardner. Being busied with other work, Mr. Gardner

had made but one visit, or at least there was a record of only one visit having been made. Since my appointment there have been about one hundred visits made by myself and the assistant visitor.

I am pleased to be able to report that our schools are well conducted. Our teachers are as able, I believe, as those of any county in the State. They manifest a desire to improve and seem on the whole to possess the "spirit of the teacher."

SCHOOL APPARATUS.

The schools are not so well supplied with apparatus as they should be. Strange to say, some of the smallest schools are best supplied. In some of the districts situated in the lumbering regions, advantage was taken of the tax on the standing pine to procure a good supply of everything needed; and now, although the pine has disappeared and the districts are poor, their schools are the best supplied of any in the county.

UNIFORMITY OF TEXT BOOKS.

Uniform text books are used throughout the county, and the pupils are well supplied with the necessary books as a rule.

TEACHING PATRIOTISM.

For several years patriotism has received attention in our schools. Recently flags have been secured, flag-poles erected, and patriotic gatherings held in the leading schools.

OBSERVANCE OF SPECIAL DAYS.

As a rule, but little attention is paid to special days except the regular holidays. Nearly all the schools take part in the Memorial day services.

KINDERGARTEN METHODS IN PRIMARY GRADES.

In the village schools and some of the rural schools attention is paid to kindergarten methods. I wish especially to mention the work of Mrs. Plowman and Mrs. Bradford in the Fremont school. In Mrs. Plowman's room much work original with the teacher is done. The arrangement and mounting of the work is the finest I have seen.

TEACHERS' INSTITUTES.

No institute has yet been held this year. The last one held in the county was at Newaygo in July, 1892. It was not well attended. The teachers are averse to the holding of institutes during the hot weather, while the school boards, especially in the village, are opposed to having institutes held during the school terms, mainly on the ground of the teachers' wages which must be paid, forgetting that the State pays a large percentage of the teachers' wages. One director objected to the holding of an institute in May, because it would cost his district $65 in teachers' wages. When asked how much primary money his district received each year he said, "Between $800 and $900." Teachers' wages are low enough

at the best, and they should receive their wages while attending institutes. The present law should be amended so that the expenses of the teachers who attend institutes shall be paid. It is small encouragement to teachers to tell them that their wages will not stop while they are attending the institute, if it is held in July or August, since none are then teaching.

TEACHERS' MEETINGS.

Three teachers' meetings have been held. All were well attended. Every endeavor was made to secure the attendance of school officers and patrons, and in that line fair success was reached.

REFERENCE BOOKS AT SCHOOL HOUSE.

Ninety per cent of the schools are supplied with dictionaries, mostly unabridged and international. But few schools have other reference books or libraries.

BEAUTIFYING SCHOOL GROUNDS.

The school grounds are in every variety of condition; but improvements are being made, and more interest is being manifested in the matter. Perhaps half the school houses are surrounded with trees, and a small per cent have wells.

GENERAL.

The new law will, I believe, raise the standard of our schools. It seems to meet the approval of teachers and patrons in general.

One great need of our schools is the manifestation of more interest by the patrons and especially the school officers. Not twenty per cent of the school officers ever inspect the work of the teacher. Nevertheless, under the excellent management of our teachers, the schools are progressing. The new course of study for rural schools is working wonders. In about fifteen per cent of our schools the system had not been introduced when I began my work in January. I believe at present that each school in the county is graded.

There is a growing tendency to hire teachers by the year. The school boards have found that better attendance and better results in general are secured.

Brookside, Mich.

OAKLAND COUNTY.

ELMER E. WEBSTER, *Commissioner.*

IMPROVEMENTS.

During the past year many improvements have been made in the management of the district schools of Oakland county. The local teachers' meetings have been well attended and have enkindled more enthusiasm among the teachers and school patrons.

GRADING OF SCHOOLS.

The work is much more systematic than a year ago. This is due to the thorough classification of the schools. Six pupils' examinations have been held and eighty-eight common school diplomas granted.

UNIFORMITY OF TEXT BOOKS.

The text books and courses of study are becoming more uniform.

SCHOOL APPARATUS.

School boards are providing school apparatus more liberally, although much more is needed in many schools.

TEACHING PATRIOTISM.

The schools have more generally observed legal holidays, and more attention is now paid to instilling the spirit of patriotism in the pupils.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Kindergarten methods have been introduced in the primary grades to a slight extent, but not so much as they would be if our teachers were more thoroughly trained themselves in this excellent branch of teaching.

TEACHERS' INSTITUTES.

A well conducted and well attended institute of two weeks was held at Oxford during the year. I regret, however, that our teachers do not look upon the institutes with more favor.

BEAUTIFYING SCHOOL GROUNDS.

Many of our school grounds have been tastefully graded and provided with shade trees, but most of the out buildings are not suitable. School patrons in many cases do not use the same care in maintaining school buildings that they bestow on their own homes.

GENERAL.

When we compare our schools with those we had a year ago, there are many grounds for encouragement. School boards are more careful in the selection of teachers and in most cases hire by the year. Teachers are more thoroughly imbued with the *teaching spirit*. Fewer complaints are made as to failures in school government. Pupils are better classified and there are fewer classes. The old text books are weeded out, and the whole work is becoming more systematic.

Pontiac, Mich.

OCEANA COUNTY.

D. E. McCLURE, *Commissioner.*

TEACHERS' MEETINGS.

We have held fifteen meetings of our teachers' associations (there are five of these, the county being divided into associational districts) and have had about thirty-four lectures given in the county. We find it much more desirable and profitable to have an evening lecture in connection with our teachers' meetings. We can get hold of the patrons then, and they need more educating than the teachers; and when the right teacher is at the helm, they find no trouble in enthusing patrons.

READING CIRCLE WORK.

We have the graded course of reading in successful use in sixty districts and sixty-three districts hire teachers by the year. When teachers and patrons come to know that the business of education is "to know for the sake of living" and not to live for the sake of knowing, we shall have struck the true thoroughfare of educational progress.

GRADING OF SCHOOLS.

With us this is an almost completed fact. There is only one danger, a serious one too, threatening the grading of country schools; that is, our teachers are too apt to make the grading purely mechanical. This danger is disappearing under the cultivation of a broader spirit of child development in the teacher. A successful grading of the country schools calls out the best individuality of the teacher in the development of the best individuality of the pupils.

SCHOOL APPARATUS.

We have expended about four hundred dollars for school apparatus during the past year.

UNIFORMITY OF TEXT BOOKS.

We have all the uniformity in text books necessary to the progress of true education.

TEACHING PATRIOTISM.

"Old Glory" waves over nearly every school house in the county. We are going to supplement our object teaching by setting aside the afternoon of the last Friday in the school month and naming it Patrons' day. Upon these days we shall use Lincoln, Washington, Grant, Whittier, Mrs. Stowe, Longfellow, and others, from which to draw our inspiration.

TEACHERS' INSTIUTES.

The institutes held in Oceana county have helped to build up our teachers more than any other factor coming into their educational life. After all is said and done about the institute, we believe the acquirement of the true teacher spirit of more importance than facts or methods secured. There is more and better education in what we make children love than what we make them learn. We are working along this line, and we can see it is lifting teachers, patrons, and pupils to a higher plane of living.

Shelby, Mich.

OGEMAW COUNTY.

B. BENNETT, *Commissioner.*

SCHOOL APPARATUS.

The schools of Ogemaw county are well supplied with apparatus, even the little, old, tumble-down log houses generally having a first-class equipment of maps, charts, globes, etc.

UNIFORMITY OF TEXT BOOKS.

Text books are uniform in most cases, the Harper's series being prevalent.

TEACHING PATRIOTISM.

A special effort has been made this year to inculcate patriotic ideas. To this end circular letters have been sent to teachers, and as a result patriotic sentiment has grown and the flag been placed in many schools.

TEACHERS' INSTITUTES.

In May a teachers' institute of one week's duration was held, and all teachers in the county save four were present. A lively interest was taken in every feature, showing that the teachers are eager to take into their schools the most advanced methods and processes.

PROGRESS OF SCHOOLS.

The greatest drawback to the progress of our county schools is the short service of teachers in a district, and short, interrupted terms of school. School sentiment is good, but the undeveloped condition of the county makes progress slow.

West Branch, Mich.

OSCODA COUNTY.

S. GORTON, *Commissioner.*

CONDITION AND PROSPECT OF SCHOOLS.

The condition of our schools, so far as their organization and work is concerned, is creditable and satisfactory, considering of course the disadvantages under which they labor. The teachers generally are doing good work and are doing it intelligently and methodically. They are much better equipped for their profession than could reasonably be expected, considering the fact that we have no high school in the county and that most of them have been obliged to depend on the primary school and pure grit for their education and professional skill, together with what little they could obtain from about one week's institute in every two years.

Financially our schools are in a deplorable condition and their future prospects are gloomy indeed, unless there can be some method devised to enforce the collection of taxes on non-resident lands or a change is made in the law with reference to the distribution of the primary school interest fund. Many schools in the southern part of the State are able to pay teachers' wages entirely from the primary school interest fund they receive, and maintain a school eight or nine months in the year. Many school districts in this county are unable to obtain sufficient money from all the sources of revenue to maintain a school for three months. Some districts are still in debt to teachers for work done some two years since.

These are ugly facts, pregnant with danger and disaster. I am very positively of the opinion that a proper regard for the public welfare of the State and even-handed justice to all the school children within our borders, alike demand a different method in the distribution of our primary money. The weak should be helped; the strong can help themselves.

SCHOOL APPARATUS.

Some of our schools are supplied with maps, globes, and charts, and a large proportion of them with dictionaries, two with encyclopedias, and all of them with black boards. Considering the fact that our county is new and sparsely settled and the inhabitants not wealthy, our school houses and their equipments would not suffer by a comparison with any in the State. Still there are a great many things needed by our teachers, having which they could do more and better work.

In this age of achievement and progress our workmen demand the best tools and our requirements of them are commensurate with the spirit of the age. People no longer make war with clubs and stones. Our teachers need more and better tools, and when they are supplied they will do more and better work.

The character of their work must not be forgotten. They are not building for time but for eternity. They are not shaping wood or iron or brass, but they are building the characters of our future men and women. In their hands repose the hope and destiny of the nation. Give them the best appliances and plenty of them.

UNIFORMITY OF TEXT BOOKS.

The text books are uniform in all our schools, excepting an occasional stray.

TEACHERS' INSTITUTES.

Considering the lack of other educational advantages in the county, the teachers' institute is of great value to our teachers, and that means it is of great value to our children; for we must not lose sight of the fact that our primary schools are established and maintained for the children rather than for the teachers, though the children can only reap the benefits through the medium of expert instruction. So the institute is particularly valuable to counties destitute of high schools and should have the active sympathy and support of the county and a more liberal appropriation from the State. Money spent for this purpose is money spent to feed our own children with the bread of intellectual life.

Instead of a one week's institute once in two years, we should have at least four weeks every year. This would supply, in a measure, the lack of academic training. The method adopted this year, of less lectures by the instructors and more regular class work, is a sensible and practical improvement. Under the new law, which only permits the granting of three third grade certificates and then requires the applicant to be able to obtain a second or retire from the profession, many of the teachers in our county will be obliged to give up their work, unless they can have the advantage of more institute instruction. It is a financial impossibility for many of them to go away to school.

The practice heretofore pursued of combining two or more counties for an institute is a folly that cannot be abandoned too soon. It is giving an institute to one county and permitting the other to share the fate of Mother Hubbard's dog. So far as our county is concerned, an institute at Whitefish Point would serve our purpose quite as well as at Hillman or Harrisville. It is unfair and unwise to take the pittance of an institute fund that one county has, to pay the expenses of an institute in another county.

GENERAL.

As a whole, the work of our schools during the past year has been very satisfactory. The teachers have been alert for any suggestions looking to better schools and have read more school journals than in any previous year.

In closing this report I wish to acknowledge my obligations to the other members of the board, John J. McCarthy and Robert Kettle, for their valuable suggestions and wise counsel, and for the deep interest they have constantly manifested in the welfare of our schools.

Luzerne, Mich.

OSCEOLA COUNTY.

O. B. STARK, *Commissioner.*

SCHOOL APPARATUS.

Early in the school year district boards were encouraged by personal visitation of the commissioner as well as by circular, to see that the school room was properly supplied with needed apparatus and that teachers be employed who would make use of material furnished.

As an outgrowth of this effort, much worn and antiquated material was laid aside and new and modern apparatus provided. It is noticeable that there is a growing interest on the part of patrons in this direction.

UNIFORMITY OF TEXT BOOKS.

As regards text books, nearly all the schools are supplied with latest editions and with but few exceptions they are uniform. Many districts own the text books and I find this method works great advantage to the schools.

TEACHING PATRIOTISM.

The majority of school houses have floating over them the stars and stripes, and the teaching of patriotism has become a settled matter, the love of country being interwoven as character is being builded and knowledge extended. Many of the townships united in celebrating Columbus day. Large processions headed with bands of music, paraded streets, and selections from various schools, with orations from Grand Army representatives, made the day one long to be remembered.

OBSERVANCE OF SPECIAL DAYS.

There has been a general observance of special days, especially Washington's birthday and Arbor day.

KINDERGARTEN METHODS IN PRIMARY GRADES.

Kindergarten methods are receiving more attention than ever before, some of the teachers making use of these methods to an almost unthought of extent. We expect the coming year to see a great advance in this direction.

TEACHERS' INSTITUTES.

Our institute conducted by Prof. J. W. Ewing was a success in every sense of the word, and his assistant, A. D. DeWitt, has been quoted ever since. His instruction was most excellent, being appreciated and treasured by the teachers.

REFERENCE BOOKS AT SCHOOL HOUSE.

As is the case in almost every instance, the prime teachers are to be found with a good supply of reference and supplementary books. I have

been highly gratified to find so many desks in my county well filled with such material.

BEAUTIFYING SCHOOL GROUNDS.

Many of the school grounds are as neat and well kept as the grounds of an enterprising husbandman, both flower and vegetable gardens greeting the eye. I find the pupils take great interest in this matter where introduced, and even the youngest of them have a hold of botany and are forming a love for the beautiful that will never be forgotten.

GENERAL.

In conclusion I desire to say that I have never engaged in a work more pleasant, although perplexities sometimes arise and I have fallen short of the mark in many instances, yet the hearty coöperation of the various school boards of the county and the exceeding kindness of patrons renews my courage, and I feel my hands are being upheld for greater success the coming year.

Hersey, Mich.

OTSEGO COUNTY.

F. W. COGSWELL, *Commissioner.*

SCHOOL APPARATUS.

The schools with very few exceptions are well supplied with apparatus. These supplies consist of writing charts, physiology charts, reading charts, maps, Webster's dictionaries, globes, arithmetic charts, etc. In some cases needless supplies have been purchased, in others hardly anything.

UNIFORMITY OF TEXT BOOKS.

As our population is constantly changing, we have never made any attempt to secure uniformity of text books. All kinds are in use.

TEACHING PATRIOTISM.

I find the majority of our teachers are fully up to the times in teaching patriotism. They are, as a rule, loyal teachers willing to teach love of country and believing in it too.

OBSERVANCE OF SPECIAL DAYS.

Outside of the village schools no attention whatever is paid to this, and very little there.

KINDERGARTEN METHODS IN PRIMARY GRADES.

No provision has been made for the introduction of kindergarten work in the primary grades. Some teachers have been using it as best they could. Outside of graded schools, it has so far found no place in the school work.

TEACHERS' INSTITUTES.

We have been the best satisfied with institutes holding classes. In examination we find the majority of applicants lacking in grammar, arithmetic, and theory and art.

REFERENCE BOOKS AT SCHOOL HOUSE.

None outside of village schools.

BEAUTIFYING SCHOOL GROUNDS.

As most of the grounds are very new, but little can be done to improve their appearance till the stumps rot out. Not as much has been done as might have been. In many cases the ground is well seeded and has a good sod. Perhaps one-sixth of the yards are partly grown up to weeds and brush. Only one yard has even a rose bush. The others have nothing of the kind or description. In the near future we hope to see this changed.

GENERAL.

I find that parents are not inclined to be as liberal with the school as its needs require. In many cases it is hard to make them see the actual needs of the school, in others it is harder to get them to provide for them.

Vanderbilt, Mich.

ROSCOMMON COUNTY.

A. C. SLY, *Commissioner.*

The statistical report for Roscommon county is indeed insignificant when compared with the reports that will be made by other counties. Yet the condition of things is unavoidable, and I assure you it is not in the least the fault of the county Board of School Examiners that the report does not redound in big numbers. The county is very sparsely settled and sporadically at that, so that, excepting three, there are less than eight scholars attending school in a district. It is not because people do not send their children to school, but because there are not any more children to send. The scholars attending school at Roscommon, St. Helen, and Houghton Lake, represent nine-tenths of the scholars in the county. The country districts vote money for three, four, or five months school during the year, thinking that about all the schooling they can afford to

pay for. However, our teachers as a general thing are bright, hard working people, and it is truly astonishing the progress the children have made under adverse circumstances.

TEACHERS' INSTITUTES.

Our institutes are well attended; in fact, nearly every teacher in the county has attended the last two institutes and has been greatly benefited thereby. We hope and pray for an era of greater population and better schools.

Roscommon, Mich.

SHIAWASSEE COUNTY.

HUDSON SHELDON, *Commissioner.*

TEACHERS MEETINGS.

The schools of Shiawassee county during the year just completed have been generally in a prosperous condition. In addition to the county associations which have been held for years, we have had a series of local teachers meetings at which the commissioner could meet teachers and offer criticisms and suggestions. These have in general been well attended and have been productive of much good. I shall make them a prominent feature of my work next year and shall endeavor to secure the attendance of every country teacher at meetings to be held at regular intervals.

GRADING OF SCHOOLS.

Grading in country schools progresses slowly, but it does progress. Successfully to classify a school of forty or fifty pupils requires talents of a high order, and many teachers who are zealous and capable in discharge of other duties fail when they come to this; yet the schools of this county are gradually becoming better graded and the benefits of the system are becoming manifest.

Where the gradation has been intelligently performed, attendance is improved, the pupil advances with greater uniformity in his studies, and the teacher's energies are not dissipated by too many classes.

During the last year the Welch system of reports and records has been introduced and is now used in every country school in the county.

QUALIFICATIONS OF TEACHERS.

Perhaps the most important duty the commissioner has to perform is to aid in granting certificates. Fitness to teach is a relative, not an absolute quality. What applicants should receive certificates depends largely upon the condition of affairs in the county. Enough certificates *must* be granted to supply the schools of the county. If the board is liberal

beyond this enough to permit poor teachers to pass, as they will teach cheaper than others they will crowd the good teachers out of at least some schools in the county. On the other hand, examination papers furnish so poor an index to fitness to teach that, if they are followed exactly, the result will often be derogatory to the best interests of schools.

Persons fresh from the ninth grade can often pass a better examination than teachers who have had years of successful experience. Exact scholarship is, indeed, essential to successful teaching; but the person who has no qualification except exact scholarship, will make a dismal failure in the school room.

The teacher who needs to be told of her blunders one by one before she can correct them, will never be a successful teacher. What is required is sound judgment and keen discernment, which will enable the teacher to find out her own mistakes and to construct a better state of affairs in her school than existed before.

To select those applicants who best fulfill these conditions is a difficult task. If the great mass of the teachers were really capable of holding second grade certificates, the problem would be solved; but to grant second grades for three years to teachers who have merely studied up for examination in the two additional branches required by law will be a doubtful experiment, to say the least.

SCHOOL APPARATUS.

Schools in this county are gradually improving in respect to character of buildings, apparatus, and text books.

GENERAL.

It is the exception not to see the national colors in some form displayed in or about the school room. Teachers in general are becoming more thoroughly imbued with desire for self improvement, and I believe that the schools of the county are on a progressive basis.

Corunna, Mich.

SCHOOLCRAFT COUNTY.

S. S. BEGGS, *Commissioner.*

PROGRESS OF SCHOOLS.

Educational matters in this county have been very much advanced during the past year. The standard of scholarship has been raised. Nearly every teacher pursues the Teachers' Reading Circle Work, takes from one to three educational papers, attends teachers' institutes, and does much better work in the school room.

TEACHERS' INSTITUTES.

Our institute was held during the spring vacation and was the most successful one ever held in the county.

GRADING OF SCHOOLS.

The graded course of study is working nicely in many of the schools; in others it is not possible for it to do so.

Manistique, Mich.

WAYNE COUNTY.

ARCHIBALD McLELLAN, *Commissioner.*

TEACHERS' EXAMINATIONS.

Since my last report, I have the pleasure of stating that marked improvement has taken place in Wayne county schools; this is due chiefly to the rigid system of examinations adopted by the board of county school examiners. There is yet room for improvement, and I think the provisions of the act passed by the last legislature will have a decided effect for good on our county schools. Only two first grade certificates were granted during last year, and two second grades. The act lately passed will compel teachers to prepare themselves for higher grades, and some of them are now preparing for the future.

I would like to see the special examinations canceled and only two regular examinations held during the school year. This would undoubtedly save a great deal of expense to the counties, and have the effect of teachers making a profession of school teaching. In Ontario, where the school system is considered efficient, they have only one examination during the entire year.

BOARD OF EXAMINERS.

I am of the opinion that only teachers who are actually engaged in the work of teaching should constitute the boards of school examiners. In this county the board of county supervisors have continually selected two of their own number to fill the position of examiners. As there is doubt about the legality of a supervisor filling such a position, I think the law should clearly define the class of persons who should fill the position of examiner.

The situation of Wayne county is peculiar and should have special legislation for itself. The duties of examiners should be more clearly defined and the time that is occupied at the examinations should also be more clearly defined in the act. The method adopted in Wayne county is to divide the papers among the examiners and each examiner files an account with the clerk of his time. The clerk hands them an order on the county auditors; the amount drawn from the 1st of October last to the 30th of June is as follows: Mr. Ateyo drew $296, and Mr. Rutter $244. I never was called upon to certify to their time. In fact, each one's time was accepted by the county clerk and auditors without question. As I understand the law, the examiner cannot charge for more than sixteen days; but I do not believe that this law would be applicable to Wayne county, where we have 173 schools.

SCHOOL LAW.

In conclusion, I would like to see the school law made as national as possible, and placed beyond the sphere of politics. Politics play too important a part in our school system.

I would like to see institute fees collected in some other manner. The poor teacher who receives only eighteen or twenty dollars a month cannot afford to pay institute fees. In fact, the payment of it is looked upon as a tax levied by the board of school examiners. Every teacher should be provided with a copy of the school laws, and by this means a knowledge of our school system would become universal throughout the counties.

Detroit, Mich.

WEXFORD COUNTY.

GEO. E. HERRICK, *Commissioner.*

IMPROVEMENTS.

Three new school houses have been built, and a number of new poles and flags give tangible evidence of a growing spirit of patriotism and energy.

GRADING OF SCHOOLS.

The schools of the county are now all classified and report regularly to the commissioner.

READING CIRCLE WORK.

A start has been made in the introduction of the Pupil's Reading Circle and I have added to this a supplementary and home reading course, consisting of about fifty volumes. We hope that the coming year will bring good results along the line of home reading.

TEACHERS' ASSOCIATION.

Early in the year the Wexford County Teachers' Association was organized and the March meeting was very encouraging. I trust the association has come to stay and look for some good results from the meetings during the coming year.

GENERAL.

The teachers and scholars have been generally enthusiastic and bright. Most of the schools have made some advancement over the previous year; and, taken altogether, the year's work has been very satisfactory.

Cadillac, Mich.

QUESTIONS FOR EXAMINATION

FOR

STATE AND COUNTY CERTIFICATES.

I. STATE EXAMINATION AT LANSING, AUGUST, 1893.
II. STATE EXAMINATION AT LANSING, DECEMBER, 1893.
III. REGULAR COUNTY EXAMINATIONS, MARCH, 1893.
IV. REGULAR COUNTY EXAMINATIONS, AUGUST, 1893.

STATE EXAMINATIONS.

I. QUESTIONS PREPARED BY STATE BOARD OF EDUCATION FOR EXAMINATION HELD AT LANSING, AUGUST, 1893.

ALGEBRA.

1. Discuss and illustrate by suitable examples, the treatment of a minus sign of a subtrahend and of minus into minus in multiplication.
2. Find greatest common divisor and reduce to lowest terms the following:

$$\frac{12x^3 - 15xy + 3y^2}{6x^3 - 6x^2y + 2xy^2 - 2y^2}$$

3. Find the values of the unknown quantities in the following:

$$x - \frac{x-y}{3} = 19\tfrac{1}{3},$$

$$\frac{y}{3} + \frac{x+z}{7} = 1,$$

$$2z - 14y + x = 5.$$

4. Given $\frac{x-9}{\sqrt{x}+3} + \frac{x-4}{\sqrt{x}-2} = \frac{4(x-16)}{\sqrt{x}+4}$, to find the value of x.
5. Two cubical vessels have together a capacity of 1,072 cubic inches, and the sum of their heights is 16 inches; what is the capacity of each?
6. Four numbers are in geometrical progression; their sum is 120, and the last term is to one half the sum of the means, as 9 to 2. What are the numbers?
7. (*a*) Expand by the binomial formula $(a^3 - 2x)^5$. (*b*) Expand $(m + x\frac{1}{2})^5$ by the binomial theorem.
8. (*a*) How may the first member of any incomplete quadratic equation be made a perfect square? (*b*) Explain the difference (1) between a coefficient and an exponent; (2) between a factor and a term.
9. Define (*a*) mathematics; (*b*) algebra; (*c*) symbols of quantity; (*d*) symbols of operation; (*e*) a residual quantity.
10. (*a*) Extract the square root of $4a^2 + 9b^2 + 16c^2 - 12ab - 24bc + 16ac$. (*b*) $30 + 12\sqrt{6}$.

ARITHMETIC.

1. Sold $\frac{2}{3}$ of an article for what $\frac{1}{3}$ of it cost. What was the gain per cent?
2. Divide $240 among A, B, and C, so that A may have $140 more than B and twice as much as C.

3. Find the cost of fencing a rectangular field of $3\frac{1}{2}$ acres of smallest possible perimeter, at $1.50 a rod.
4. A can do a piece of work in 8 days, when B helps him five days; B can do the work in 9 days, when A helps him 5 days. How long will the work take both when working together?
5. How far will a carriage have traveled when the fore wheel has turned 60 times more than the hind wheel, the circumferences being 8 feet and 10 feet.
6. The difference between the simple and the compound interest of a certain sum at 8 per cent for two years is $1.20. Find the sum.
7. A certain sum amounts to $2,070 in 6 months and to $2,420 in 3 years, simple interest. What is the rate per cent?
8. (a) Multiply $\frac{2}{3}$ by $\frac{4}{7}$ and explain the process.
   (b) Divide $\frac{1}{4}\frac{5}{6}$ by $\frac{5}{16}$ and explain the process.
9. Change the common fractions to decimals in question 8, and perform the operations there required.
10. A steamer arrives at Halifax, 63° 36′ west, at 4 hr. 30 min. p. m.; the fact is telegraphed to New York without loss of time. The longitude of New York being 74° 1′ west, what is the time of the receipt of the telegram?

BOTANY.

1. Give a classification of leaves as to general outline. As to base. What is the purpose of leaves?
2. Define vernation and describe the principle modes of vernation.
3. Write a classification of stems. How would you begin the classification of plants?
4. What are the essential organs of plants? Describe the parts of each.
5. Describe the fertilization of flowers.
6. What is meant by cohesion in botany? How is a calyx with no cohesion described? A corolla? Stamens? Pistil? When the same parts are coherent, what terms are used in describing them?
7. What do you understand by placentation? Illustrate. What is the meaning of dehiscence?
8. What is fruit? Write a classification.
9. Give the general characteristics of the cruciferæ. Of the umbelliferæ. Describe and classify the spring beauty.
10. Describe the circulatory process in plants.

CHEMISTRY.

1. Define chemistry. What points must be considered in the complete study of a chemical change? Name some useful applications of chemistry.
2. Define atom and molecule. From what evidence is their existence inferred? What is meant by atomic weight? Molecular volume?
3. How would you determine the density of carbon vapor? State the law of definite proportions. Of multiple proportions. Illustrate.
4. What is the most important oxide of sulphur? How is it prepared? Compare its action as a defectant and bleacher with chlorine. With charcoal.
5. What do you understand by fermentation? How do disinfectants check the spread of disease?
6. Describe the preparation of HNO_3. What action has it on metals? Explain the names nitrous and nitric.
7. How does silver occur in nature? How is silver bullion refined?
8. Explain this equation:
   $$2NH_4Cl+CaH_2O_2=CaCl_2+2H_2O+2NH_3.$$
   What weight of ammonium chloride would be needed to give 50 grammes of NH_3?
9. Give the formula for potassium iodide, sulphuric acid, sodium chloride, and potassium chlorate. Give chemical names for KNO_3, HCl, Na_2CO_3, MnO_2.
10. Give tests for As, I, Cu, and CO_2.

CIVIL GOVERNMENT.

1. What are direct taxes? What are indirect taxes?
2. How is the state of Michigan at present divided for the election of officers to transact its public business, commencing with the first form of organization?
3. What legislative powers are possessed in Michigan by the county boards of supervisors?
4. What is meant by the terms, "Original Jurisdiction," "Appellate Jurisdiction," and "Concurrent Jurisdiction," as applied to courts of law?
5. By whom are the members of the United States Supreme Court appointed? Of how many members does the Supreme Court consist? What salaries do they receive, and what is their term of office?
6. What date was recently named by President Cleveland for the opening of a special session of congress? What is the assumed purpose of this special session?
7. What are the duties of the Michigan State Board of Charities? State Board of Auditors? State Board of Equalization? State Board of Canvassers?
8. What is the meaning of the term "equity" as applied to judicial proceedings?
9. What is meant by "free coinage?" What was the most important provision of the Sherman silver purchase act?

GENERAL HISTORY.

1. What nations were included in the "Holy Alliance?" When and for what purpose was it formed?
2. Give a brief sketch of the life of Robert Emmet.
3. What recent important political event occurred in Germany? What controversy was connected therewith and how did it terminate?
4. What nations participated in the "Treaty of Westphalia?" Give the date, terms, and important results of that event.
5. What constituted the State in the Roman Republic? What conditions brought about the downfall of the Republic and the establishment of the Empire.
6. What is mythology? What is meant by the Golden Age?
7. What nations are chiefly referred to in what is known as ancient history?
8. What important political question is at present being considered by the British parliament? What position is taken on the question by the several parties represented in parliament?

GEOGRAPHY.

1. In a trip around the globe, westward from New York, what continents, oceans, countries, mountain systems, plains, and deserts would you cross? What different modes of travel would you necessarily adopt? What people would you come in contact with, and what occupations would you find the greater number of the residents of the different countries engaged in?
2. Where is Quito located and in what respect is its location peculiar? What city is located nearest to the north pole? What city is nearest to the south pole?
3. What are tidal waves? What may be given as the origin of great tidal waves which have caused loss of life and destruction of property?
4. Upon what does the climate of a place depend? What local conditions affect the climate?
5. Distinguish between the delta of a river and an estuary. Give an example of each.
6. What important contributions are made by the following countries to the commerce of the world: Australia, Russia, the Sandwich Islands, Norway, Italy, Mexico?
7. Give the name of the imaginary line which marks the highest northern limit on which the rays of the sun are ever vertical. Give the date upon which the sun reaches this limit. Name the southern limit and give the corresponding date.

8. When it is noon at London, what time is it at New York, San Francisco, Pekin, St. Petersburg, and Berlin?

GEOLOGY.

1. What is rock and how is it formed? Account for the unstratified condition of rock.
2. What causes the disintegration of rock and what results therefrom?
3. By what means do we obtain a knowledge of the character of the rock below the surface? What is believed to be the interior condition of the earth? Why?
4. What are deltas and how formed? Discuss the agency of waves in forming land.
5. What are fossils? Of what advantage are fossils in geological research?
6. If a rock is composed wholly of quartz, what is its name? Of quartz, feldspar, and mica? What is the difference between slate and shale?
7. What is common limestone? How does its composition compare with that of marble? With chalk?
8. What is the Drift and where found? Account for the origin of the Drift.
9. Give the ages of the Palæozoic era. What was the character of the vegetation of the last age?
10. What revolution occurred at the close of the Palæozoic era? What was the effect on life?

GEOMETRY.

Demonstrate the following propositions:

1. An inscribed angle is measured by one-half the intercepted arc. (Three cases.)
2. Two triangles are similar when an angle of the one is equal to an angle of the other, and the sides including these angles are proportional.
3. When a line is divided in extreme and mean ratio, the greater segment is one side of a regular decagon inscribed in a circle whose radius is the given line.
4. Similar polygons are to each other as the squares described on their homologous sides.
5. The square described upon the hypothenuse of a right triangle is equivalent to the sum of the squares described upon the other two sides.
6. If two straight lines join the alternate ends of two parallels, the line joining their centers is half the difference of the parallels.
7. Two triangular pyramids having equivalent bases and equal altitudes, are equivalent.
8. The angle included by perpendiculars drawn from any point within a diedral to its faces, is the supplement of the diedral.
9. The volume of a triangular pyramid is equal to one-third the product of its base and altitude.
10. The area of a zone is equal to the product of its altitude by the circumference of a great circle.

GRAMMAR.

1. Construct a complex sentence containing an adverbial clause of time and a present participle.
2. Construct a sentence in which an infinitive shall be the principal word in a propositional phrase.
3. What is meant by inflection in grammar, what parts of speech are inflected, and why?
4. Give sentences in which "setting" shall be properly used as: (*a*) a mere adjective; (*b*) a participle; (*c*) an objective complement or factitive; (*d*) a noun.
5. Parse the italicized words in the following sentences: (*a*) He *wrought* the castle much *annoy*. (*b*) We drove the nail *deep* into the wood. (*c*) An examination two *hours' long* is too *much* for me. (*d*) His beard was of several *days' growth*.

6. Analyze or diagram: "So Mahomet and the mountain meet, it is no matter which moves to the other."

7. Give two most common rules for use of comma, two for colon, one for semicolon.

8. Give the words or verb phrases called for in each of the following: (*a*) Past perfect subjunctive of *do*. (*b*) Present perfect potential of *go*. (*c*) Emphatic past indicative of *steal*. (*d*) Perfect passive participle of *strike*.

9 and 10. Answer the subjoined questions concerning the following lines:

(1) Some love the glow of outward show,
(2) The shine of wealth, and try to win it;
(3) The house to me may lowly be,
(4) If I but like the people in it.

(*a*) Parse *some* and *outward* in line (1). (*b*) Give principal parts of the first sentence. (*c*) Parse the infinitive in line (2). (*d*) Parse the verb in line (3). (*e*) Diagram or analyze the last two lines.

ORTHOGRAPHY.

1. Explain the use of the following new diacritical mark used in the new International dictionary, ä.

2. Explain the difference between mutes and semi-vowels.

3. Give words illustrating the following sounds: (*a*) Italian sound of a; (*b*) soft sound of g; (*c*) broad sound of a; (*d*) intermediate sound of a; (*e*) sharp sound of th.

4. Mark the following words to indicate proper pronunciation; path, wad, root, gyve, does, won't, born, dirt, cloud, would.

5. What is articulation?

6. Give five important suffixes with the meaning of each.

7. How does voice differ from speech?

8. Explain the difference between a digraph and a diphthong.

9. What is meant by the "vanish" in some vowel sounds?

10. Give a word in which "l" has the force of a vowel.

PHYSICS.

1. (*a*) Name and define the three states of matter. (*b*) Give Newton's laws of motion.

2. (*a*) How prove the atmosphere has weight? (*b*) What is the object of experiments in the study of physics?

3. Define light. What constitutes the difference between light and heat? What is the velocity of light? Explain by diagram how velocity of light is determined. What is the velocity of sound in air, at the temperature 0°, C.?

4. Give Ohm's law. Define ohm, volt, ampére. Draw diagram showing how to connect cells in series and in multiple arc or abreast. If a Bunsen cell has an electromotive force of 1.8 volts and an internal resistance of .9 ohms, show how to connect ten such cells to get the greatest current, the external resistance being 100 ohms.

5. A solid mass weighs twenty-four pounds in air, twenty pounds in water, and sixteen pounds in another liquid. What is the specific gravity of that other liquid?

6. (*a*) What influence have variations of density and temperature upon velocity of sound in air? (*b*) If the barometric column stands at thirty inches and the pressure of the atmosphere is 14.7 pounds to the square inch, what does a cubic foot of mercury weigh?

7. (*a*) Explain the echo. (*b*) What is the theory of the cause of differences in color?

8. Explain, using a diagram, how rays of light parallel to the axis of a convex lens are brought to a focus.

9. How far will a body fall in the first second on Saturn, the density of Saturn being .12 that of the earth and its diameter being 72,000 miles?
10. (*a*) What is a horse-power? (*b*) How many horse-powers are there in a machine that will raise 8,250 lbs. 176 ft. in four minutes? (*c*) State the modes of diminishing friction.

PHYSIOLOGY AND HYGIENE.

1. What is an organ? A function? A tissue? A system? A fiber? A cell?
2. What is the periosteum? What is its use? Illustrate. What is marrow and its purpose?
3. Why is a fracture near a joint so serious? How should a broken limb be cared for before the doctor comes? What is a sprain?
4. Describe the process of intestinal digestion. Explain absorbtion.
5. How many sets of valves has the heart? Where and how does the blood become impure? Where and how is it made pure again?
6. Name the parts of the eye and state the function of each.
7. Name the three great divisions of food and the varieties and purpose of each.
8. What are the constituents of air and the properties and uses of each? What is revealed by the analysis of exhaled air? To remove impure air, where should the ventilators be placed? Why?
9. Describe the effect of alcohol on the blood. On the nervous system. On the moral sense.
10. Define muscle. How are muscles connected with bone? Location and function of the following muscles: biceps, triceps, pectoralis, diaphragm, tendon of Achilles.

SCHOOL LAW.

1. Name the common school revenues and describe each.
2. What constitutes a legally qualified teacher?
3. Name the powers of the district board.
4. Give the composition of township board of school inspectors. When elected? Term of office? Important powers and duties?
5. State what you know about the establishment and maintenance of township and district libraries.
6. Should the institute fee be collected of persons taking a teachers' examination who are not yet seventeen years of age?
7. Is there any law which prohibits a teacher from introducing a switch into a school room when it becomes necessary?
8. Has a teacher a legal right to suspend a pupil from school?
9. Would it be legal for a district board to buy a chart for the district without calling a special meeting, provided a petition was circulated and signed by a majority of the tax payers?
10. Should a person over twenty years of age who is a resident of a school district, be required to pay tuition in order to attend school as a pupil?

THEORY AND ART.

1. What is a course of study? Its object?
2. Give an outline for a course of study in geography for fifth grade.
3. Give five practical methods for developing the attention of pupils.
4. Compare the relative merits of slates and tablets for use in the school room.
5. Give in brief your plan of teaching literature.
6. What is meant by pedagogy?

7. Give an illustration of applied psychology.
8. Name five incentives to study which may properly be used by the teacher.
9. What is your method of ascertaining a pupil's fitness for promotion?
10. Give five cautions concerning the care of the eyes.

U. S. HISTORY.

1. Give a brief sketch of the origin and termination of the "Dutch Settlement."
2. Give the names of the members of President Cleveland's cabinet, together with their offices in the order of possible presidential succession.
2. What arbitration commission was in recent session, and what was the matter in dispute? How did the United States acquire the right it assumes in the case?
4. Who is at the present time Governor of the State of New York, Massachusetts, Pennsylvania, Minnesota, Indiana, Illinois?
5. To what extent has the right of suffrage been granted to women in the several states?
6. Write a short sketch of the life of Robert de la Salle, giving his connection with the early history of our country in the order of its occurrence.
7. Give the names of the commissioners sent to France by the Colonial Congress. What were the several purposes of their visit?
8. Give a list of the Vice Presidents of the United States in the order of their service.
9. In what year did the so-called "Dorr's Rebellion" occur? What were the origin and results of the incident?
10. What national legislation affecting the residence of the Chinese in the United States has been enacted during the past twelve years?

ZOÖLOGY.

1. What does geology reveal as to the diversity and numerousness of animal life in remote ages?
2. What is the relation of climate to the numbers and distribution of different kinds of life?
3. What do you understand by the Development Theory?
4. Why is a system of classification of animals necessary? Upon what does a system of classification rest?
5. Define or illustrate the meaning of the terms: species, genera, orders, classes, and divisions as used in classification.
6. Classify the following: horse, cow, duck, kangaroo, honey bee.
7. Describe the process of circulation in articulates.
8. Describe the following orders of birds: Raptores, Grallitores, and Cursores.
9. Describe a compound eye. What animals have compound eyes?
10. Describe the metamorphosis of the tadpole.

TEST IN LITERATURE.

The examination in the four studies, literature, rhetoric, penmanship, and one-half of the orthography, will consist of an essay of not more than 1,000, nor less than 600 words, on some one of the following topics, which topic will be designated on the day of examination:

TOPICS.

A review of "Nicholas Nickelby."
(a) Outline of the plot.
(b) Sketch of principal characters.
(c) Purpose of the novel.
(d) Criticism of style.

"The Schoolmaster in Literature." [A review of the reading circle book of that name.]

A comparison of the lives of Henry Clay and James G. Blaine.

II. QUESTIONS PREPARED BY STATE BOARD OF EDUCATION FOR EXAMINATION HELD AT LANSING, DECEMBER, 1893.

ALGEBRA.

1. Given $x+\sqrt{x} : x-\sqrt{x} :: 3\sqrt{x}+6 : 2\sqrt{x}$, to find the value of x.
2. Find, algebraically, five geometrical means between .001 and 1000.
3. State five fundamental propositions for factoring.
4. Divide $\frac{x^3}{y^3}+\frac{5x^2}{12y^2}+\frac{39}{16}$ by $\frac{x}{3y^2}+\frac{1}{2y}$.
5. Factor $12x^3-8xy-9x^2y^2+6y^3$ and state the principle by which you do it.
6. Extract the cube root of $3^6a^4c+27a^4bc^2x-8a^3+b^3x^3-6ab^2x^3+27a^6c^3-36a^3bcx-54a^5c^2+9a^2b^2cx^2+12a^2bx$.
7. Find two numbers, the greater of which shall be to the less as their sum to 42 and as their difference to 6. Solve by keeping it in the form of a proportion, not reducing to an equation at any time.
8. At what stage in school would you begin the study of algebra? Why?
9. A, B, and C can do a piece of work in 4 days, which A alone can do in 12 and B alone in 8 days. C begins the work alone and is joined after two days by A, and they work together 2 days more. A and C being then called off, how long will it take B to finish the work?
10. Name the principal transformations of simple equations. Write a duplicate, a triplicate, a subduplicate, and a subtriplicate ratio.

ARITHMETIC.

1. If copper is mixed with 20% of its weight of nickel, what per cent of the mixture is nickel? A wholesale bookseller allows retailers a discount of 33⅓% on books having fixed prices. What per cent profit do the retailers make.
2. A grocer marked a quantitity of tea at an advance of 20% on cost. After selling ⅗ of it, he reduced the price 8 cents a pound. His total gain was 77⅓% of what it would have been had he not reduced the price. What did the tea cost per pound?
3. A druggist purchases brandy at $4 a gallon and adds water so that, when he sells it at $3 a gallon, he clears 50%. What per cent of each gallon of the mixture is water?
4. The interest of a sum of money at the end of 15 years was ⅗ of the sum itself. What rate per cent was charged?
5. Two men or five boys can perform a piece of work in 7 days. How many men together with 3 boys would perform it in 3½ days?
6. I have a rectangular farm the perimeter of which is 240 rods. It is twice as long as it is wide. How many acres does it contain?
7. An article was sold at a price which was ⅕ above cost. Had the cost been ⅘ of what it really was and the selling price remained the same, the gain would have been $3. Find the first cost.

8. What would you expect a pupil to know about numbers when ready to enter the fifth grade? The ninth?
9. A crew can row up a stream a certain direction in 64 minutes, and back again in 60 minutes. Determine the distance, the rate of the stream being half a mile an hour.
10. In the curriculum of studies what rank should the study of arithmetic have? Would you make the passing of arithmetic a necessary requirement for the passing of a grade? If at all, where would you require it?

BOTANY.

1. Distinguish between phenogams and cryptogams. State their divisions and note the distinctions of those of the first.
2. What is the foundation of all vegetable tissue? Of its elements which are essential for its growth and development?
3. Describe the functions of the roots, stems, and foliage leaves of plants. State the kinds and sources of their nourishment. Mention the changes the nutritive elements undergo in their passage through them and the agencies by which these changes are effected.
4. Name, describe, and give the functions of the several parts of the typical flower. State which are essential and why.
5. Name five kinds of fruit. Describe and give an example of each.
6. Define imperfect, fertile, neutral, hypogynous, perigynous, epigynous, epipetalous, gynandrous.
7. Give the general characteristics of the Leguminosæ, Rosaceæ, and Coniferæ.
8. Refer to their botanical orders, genera, etc., the plum, pear, orange, pumpkin, cucumber, carrot.
9. Define inflorescence. Describe three kinds.

CHEMISTRY.

1. Define and illustrate equivalence and state how the equivalence of an atom varies. What is the equivalence of O? Of N? Of Fe? Of Cu?
2. In what ways do molecules differ? Give Ampére's Law and the deductions from it.
3. How are atoms represented in symbols? What are formulas and how are they written? What is a chemical equation?
4. What is an acid-forming oxide? How is it converted into an acid? What are salts? When does the name of a salt end in *ate*?
5. Give the formula of potassium iodide; of lead sulphide; of calcium chloride; of silver arsenide.
6. Describe the action of hydrochloric acid upon metals. What salts are thereby formed?
7. Marsh gas is composed of 75 per cent of carbon and 25 per cent of hydrogen, and has a density of 8. What is the atomic weight of carbon? What volume of ammonia gas in one kilogram of $(NH_4)2SO_4$?
8. Give the usual mode of liberating chlorine and writing the reaction. Define combustion, decay, rusting.
9. Name the minerals in which lead occurs and give tests for lead. What are the objections to lead water pipes? Mention the properties and uses of aluminum.
10. Give the symbols, properties, tests, and uses of sulphur, iodine, chlorine, and carbon.

CIVIL GOVERNMENT.

1. When and where was the constitution of the United States framed? Upon what contingency did the acceptance or effectiveness of the constitution depend after its original completion? When did the first constitutional Congress assemble?

2. Distinguish between the terms democratic and republican as applied to forms of government. Define the different forms of monarchical government.
3. What is the difference between a majority and a plurality? What States require majorities for the election of State officers?
4. Name some of the most important laws enacted during the last session of the Michigan legislature.
5. What is the relation of the militia to the State government? What is the relation of the standing army to the State government?
6. What are the duties of the Michigan State Board of Corrections and Charities? What representatives has this board in the various counties of the State?
7. What was the purpose of the recent extra session of Congress? State what you know of the provisions of the bill principally affected by that extra session.
8. What amendments to the constitution of the state of Michigan were voted upon at the spring election of 1893? What was the result of the election as to these amendments?

GENERAL HISTORY.

1. Give a brief sketch of the origin and teachings and followers of Brahmanism. Of Buddhism. Of Mohammedanism.
2. When was the present existing Empire of Germany formed? What conditions existed at the time of its formation? Who was first declared emperor and where?
3. To what countries was the term Romance Nations applied? What was the origin of the Romance languages?
4. What four great poets of ancient history made memorable the reign of Augustus?
5. What is meant by reference to the Lost Atlantis? To what does the term Pegasus refer? In what relation is it sometimes used?
6. Give some principal incidents leading to and connected with what is known as the "Reign of Terror."
7. What one important historical event is connected with Marengo, Italy? Cape Trafalgar? Tel-el-kebir? Sebastopol?
8. What matters of public home interest are now occupying the attention of the people of England? Of France? Of Germany? Of Brazil?

GEOGRAPHY.

1. In what way does the physical formation of a country affect its industries, its commerce, the character of its people, and the tendencies of its civilization? Make your answer comprehensive and illustrate it by reference to countries of varying characteristics.
2. Give the location of what has been known as the kingdom of Hawaii, and add a description of that country which will include its people and their industrial pursuits.
3. What is the population of the United States, including Alaska, as shown by the census of 1890? What is the population of Michigan?
4. From what countries do we import raw silk, dye woods, sugar, rice, and hides? What are the principal exports of the United States?
5. What do you understand by the geographical terms, horizon, orbit, solar system, water shed, monsoons, isothermal lines?
6. What are the producing causes of mirages, the aurora borealis, tornadoes, geysers?
7. Sketch the drainage system of Michigan, giving the principal rivers, course, and outlet of each.
8. What is meant by standard time? Give the number and name of the divisions of standard time in the United States and locate the division lines.

GEOLOGY.

1. Write a chart of the grand divisions of geological time and the subdivisions of each, and explain the significance of the terms used.
2. Discuss the origin of soil and account for its depth.
3. Discuss the formation of peat bogs. How are beds of bog iron formed?
4. Define dip, strike, drift, faults. How does drift formation differ from sandstone formation?
5. Discuss the Gulf Stream as a geological agent. What is a geyser? What is the theory as to the cause of the phenomena of geysers?
6. Name the agents and give examples of the effects of erosion. Discuss the modes of determining the amount of erosion.
7. What are the principal plants of the coal measures? Discuss the mode of accumulation of coal.
8. What is the origin of bitumen and petroleum? What is the age of petroleum bearing strata?
9. In what kind of rocks do feldspars occur most abundantly? How can you distinguish calcite from feldspar? Of what is marl chiefly composed?
10. What were the highest vertebrates during the Mesozoic time? What were the highest animals during the Tertiary? What is meant by comprehensive types?

GEOMETRY.

Demonstrate the following:

1. A line which bisects any angle of a triangle, divides the opposite side into segments proportional to the adjacent sides.
2. The area of a regular inscribed dodecagon is three times the square on the radius.
3. An angle included between a secant and a tangent is measured by one-half the difference of the intercepted arcs.
4. A pair of parallel transversals intercepts equal portions of two parallels.
5. If a plane intersects two parallel planes, the lines of intersection are parallel.
6. If one of two parallels is perpendicular to a plane, the other is perpendicular also.
7. The surface of a sphere is equivalent to four great circles; that is to $4\pi R^2$, R being the radius of the sphere.
8. The volume of a sphere is equal to the area of its surface multiplied by one-third of the radius; that is, $\frac{4}{3}\pi R^3$, R being the radius.
9. Write five propositions concerning pyramids. Write five propositions or corollaries concerning frustums of pyramids or of cones.
10. Write five propositions other than those above, concerning area. What is a concept? Name the geometrical concepts.

GRAMMAR.

1. What do you consider as the chief value of the study of English grammar?
2. (*a*) Construct a sentence which shall contain *him* used as indirect object; (*b*) as factitive predicate (objective complement); (*c*) as subject of an infinitive; (*d*) as object of a participle.
3. Name four parts of speech used to connect the clauses of complex sentences. Illustrate each by a sentence.
4. Give the grammatical construction of the italicized words in each of the following sentences: (*a*) He was right *both* as to time and place. (*b*) The breeze comes *whispering* in our ear. (*c*) It is by careful saving that men grow *rich*.
5. What is inflection in grammar, what parts of speech are inflected, and for what purpose is each inflected?

6. In what respect does an infinitive resemble the verb? In what does it differ from the verb? Illustrate by examples.
7. Construct a sentence in which a substantive clause shall be used in apposition.
8. [Thirty credits on answers following this selection.]

(1) My lord Sebastian,
(2) The truth you speak doth lack some gentleness
(3) And time to speak it in; you rub the sore
(4) When you should bring the plaster.
—*Shakespeare's Tempest.*

a Kind of sentence as to structure; give its distinctive clauses.
b Construction of line (1).
c Give style, mode, and tense of verb in line (2).
d Name infinitive in line (3) and state how it is used.
e Give case of *truth*, *time*, and *gentleness*.
f Parse *when* in line (4).
g Parse *should bring* in line (4).
h Give principal parts of verbs in line (3).
i What rule would call for semicolon in line (3).
j What relation has *truth* to *you speak* in line (2) and how may it be shown?

ORTHOGRAPHY.

1. Give words which illustrate the sounds of *a* marked as follows: ạ, ȧ, â, á, ă, ą, a
2. Give all the consonants that are ever marked diacritically and illustrate the use of each mark by a word.
3. Describe, as to a pupil, how the sound of *be* is produced by the organs of speech and voice.
4. Name the unnecessary letters of our alphabet and explain why they are unnecessary.
5. Mark diacritically the pronunciation of the following words: *program*, *fertile*, *Chicago*, *Hawaii*, *caloric*.

PHYSICS.

1. (*a*) Define gravitation and give its laws. (*b*) Give the law of weight. (*c*) What is the center of gravity, and how may it be found?
2. (*a*) Explain the action of the mercury barometer. (*b*) Give Mariotte's law. (*c*) Describe the piston of Sprengel's air-pump. (*d*) Describe the ordinary air-pump. (*e*) Explain the action of the siphon.
3. What is the pressure on the side of a reservoir 150 feet long, filled with water to the height of twenty feet?
4. (*a*) Why can you not raise water 50 feet with a common pump? (*b*) What change would it be necessary to make in the pump in order to raise water to that height? (*c*) Illustrate by a diagram.
5. (*a*) Give the facts of gravity and the law of weight. (*b*) If a body weigh 120 pounds 2,500 miles below the surface of the earth, at what distance above the surface will it weigh 80 pounds.
6. What is the difference between the temperature—40° C. and 40° F.? Explain.
7. (*a*) What is meant by electromotive force? (*b*) Describe Grove's battery and its mode of action. (*c*) Why are battery zincs generally amalgamated?
8. (*a*) Describe an electro-magnet; (*b*) tell what its advantages are. (*c*) State the principle of the electric telegraph.
9. A ball thrown downward with a velocity of 35 feet per second reaches the earth in 12½ seconds. (*a*) How far has it moved; (*b*) what is its final velocity?
10. A capstan 14 inches in diameter, has four levers each 7 feet long. At the end of each lever a man is pushing with a force of 42 pounds. What is the effect produced, one-fourth of the energy expended being lost by friction?

PHYSIOLOGY AND HYGIENE.

1. Describe briefly the bony system. How does living bone differ from dead bone? What produces curvature of the spine?
2. Describe the muscular tissue and the arrangement of the tendons at the wrist and ankle. What is meant by the muscular sense?
3. Name the digestive fluids and their effect on each class of food.
4. What is fermentation, its cause, kinds, and how is it arrested? What is the effect of alcohol on nervous tissue.
5. What is a cold? How do persons take cold and how may colds be prevented?
6. By means of a diagram explain the structure of the eye and state the function of each part. Explain near-sightedness and far-sightedness.
7. What is the larnyx? Describe its structure, situation, and shape, and tell how the voice is produced.
8. Define the following: aorta, biceps, chyle, cochlea, papilla, cilia, plasma.
9. Describe the lungs, their structure, size, and weight. How is air changed in the lungs?
10. What are contagious diseases and how are they communicated? How are such diseases prevented from spreading?

SCHOOL LAW.

1. Name the "Trust Funds" of the State. Where is the money belonging to such funds?
2. What did the last legislature do towards placing the University on an independent basis as to its support?
3. Who can establish ungraded schools? Who can be placed in such schools?
4. What are the requirements for the renewal of a teacher's certificate without examination?
5. Mention three things that would make a contract in force void.
6. Draw an order upon the proper officer of a common school district for one month's teachers' wages, considering yourself the officer.
7. What two things will cause a district to forfeit its public money? What becomes of the money thus forfeited?
8. What is a fractional district? How formed? To what township does it belong?
9. Who may consolidate two or more school districts?
10. Does the parent, the teacher, or the board have the right to say what studies the child shall pursue? Give reasons for your answer.

THEORY AND ART.

1. Give what you consider a good outline of a course of study in geography for fourth and fifth grades.
2. Name ten books on education that should be found in a good library for teachers.
3. What do you consider as educational "fads?"
4. Give reasons for and against written examinations of pupils.
5. State briefly your method of teaching history.
6. What value is to be derived from the study of the history of education? What works on this subject have you read?
7. Name ten most prominent educators of today in North America.
8. What advantages are to be gained and what dangers are to be feared from the introduction of elementary science in our lower grades?
9. State how you would teach current events in your school.
10. What are the advantages and disadvantages of school exhibits?

UNITED STATES HISTORY.

1. Give a sketch of the Columbian Exposition of the present year, including its origin, connection with the United States Government, prominent officials, and most important features.
2. When and by what nation was slavery introduced into the American colonies? What political representation was given to the slaves of the south after the adoption of the constitution of the United States.
3. Through what means did Alaska become a possession of the United States? When and from what country was it secured?
4. What battle of the war of 1812 was fought after peace was declared? Give a sketch of some interesting incidents connected with that battle.
5. State some public events of interest or importance connected with the life of Carter H. Harrison, Allen G. Thurman, Carl Schurz, and Henry Ward Beecher.
6. What was the cause of the war with Mexico? What were the terms upon which that war was concluded?
7. What territories have recently been admitted to statehood by vote of Congress? What other territories are now seeking admission?
8. What was the purpose of the so-called "Force Bill," the passage of which was attempted in the Fifty-first Congress?? What bill of national importance was passed by that Congress?

ZOÖLOGY.

1. Name the five great divisions of the animal kingdom and state briefly the leading characteristics of each.
2. Give some description of the first kind of animals. What animals appeared in Palaeozoic time?
3. Name some animals belonging to the class of amphibians. To what class of vertebrates does the salamander belong?
4. What were the first air breathing vetebrates? In what respect were some Mesozoic birds reptilian?
5. What peculiarities about the brains of the oldest mammals? What about their feet.
6. How did Devonian fishes differ from modern fishes? When did the modern type become abundant?
7. What are the most important food fishes of Michigan? To what families do they belong?
8. Describe the different modes of breathing among animals.
9. Classify the following: tarantula, lobster, turtle, duck, elephant, bear, chamois.
10. Compare the circulatory apparatus of the ox, the frog, the fish. The digestive apparatus of the same.

TEST IN LITERATURE.

The examination in the four studies, literature, rhetoric, penmanship, and one-half of the orthography, will consist of an essay of not more than 3,000, nor less than 2,000 words, on some one of the following topics, which topic will be designated on the day of examination:

TOPICS.

A review of "Last Days of Pompeii."
- (a) Outline of the plot.
- (b) Sketch of principal characters.
- (c) Purpose of the novel.
- (d) Criticism of style.

A sketch of the life of La Salle.
[Based on the reading of "Parkman's Discovery of the Great West."]

An essay on "Lowell and His Works."

COUNTY EXAMINATIONS.

III. QUESTIONS PREPARED BY THE SUPERINTENDENT OF PUBLIC INSTRUCTION FOR THE REGULAR EXAMINATION, MARCH 2-3, 1893.

ARITHMETIC.

First and Second Grades.

1. Define compound number, decimal, hypothenuse, bullion, alloy.
2. Multiply together the sum, the remainder, the product, and quotient of $\frac{5}{8}$ and $\frac{1}{3}$. (Consider $\frac{1}{3}$ as the divisor.)
3. (*a*) Reduce $\frac{4}{10}$ of a rod to the decimal of a mile; (*b*) .4864 bu. to lower denominations; (*c*) .9375 gal. to lower denominations.
4. A note of $150.42 was given Jan. 16, 1887, at 10 per cent. Dec. 12, 1887, $100 was paid; Feb. 3, 1888, $11 was paid. What was due Jan. 1, 1889?
5. Make a bill for lumber bought of Todd Bros. by James Jones of Chicago, May 1, 1890, as follows: 200 boards, 8 in. by 12 ft., at $25 per M; 40 posts, 4 in. by 4 in. by 7 ft., at $10 per M.; 800 planks, 3 in. by 12 in. by 16 ft., at $18 per M. Find the amount of the bill.
6. A tree broken off 24 feet from the ground rests on the stump, the top touching the ground 30 feet from the foot of the tree. What was the height of the tree?
7. A horse tied to a stake by a rope, grazes to the distance of 40 ft. from the stake; on how much surface can it graze?
8. Find the sum of the square roots of the following decimals: .09, .00144, .6561, .729 and .017161.
9. (*a*) How do you find the area of a circle; (*b*) the convex surface of a cone; (*c*) the volume of a sphere?
10. The longitude of New York is 74° west; that of Paris is 2° 20′ east. When it is 15 minutes past 10 a. m. in New York, what is the time in Paris?

ARITHMETIC.

Third Grade.

1. Divide fifty millionths by six hundred twenty-five ten thousandths and express the quotient in words.
2. How many pounds of butter at 17½ cents a pound will pay for 24⅗ pounds of coffee at 27¾ cents a pound? Write out a full analysis.
3. How many square feet of glass in four windows of 12 panes each, each pane being 2 ft. 6 in. long and 1 ft, 10 in. wide?

4. How many planks 16 feet long and 14 inches wide will floor a barn 60 feet long and 34 feet wide?
5. Sold a carriage for $210, thereby losing 16 per cent. For how much should I have sold it to gain 14 per cent?
6. What is meant by a legal rate of interest? What is usury? Explain by example what is meant by the six per cent method of computing interest.
7. Mr. A. gave his note for $240, one-half payable in four months and the other half in eight months. What is the present worth of said note, money being worth 5 per cent per annum?
8. If ten men mow 25 acres of grass in two days of ten hours each, how many hours per day must 6 men work to mow 28 acres in 4 days?
9. Define denominate number, right angle, involution.
10. Give the tables of Troy weight, square measure, liquid measure, and circular motion.

ALGEBRA.

First and Second Grades.

1. Define quantity, axiom, coefficient, and exponent.
2. Given $x^{\frac{1}{2}} + y^{\frac{1}{2}} = 6$ and $x^{\frac{1}{2}} + y^{\frac{1}{2}} = 20$ } to find x and y.
3. Resolve into factors:
   (*a*) $x^6 - 1$. (*b*) $x^3 + y^3$. (*c*) $n^3 + 2n^2 + n$. (*d*) $6x^2 - 12xy + 4y^2$.
4. It is required to divide 24 into two such parts that their product may be equal to 35 times their difference.
5. Reduce $\dfrac{x^3 + 3x^2 - 20}{x^4 - x^2 - 12}$ to its lowest terms and find its value when $x = 2$.
6. Find two numbers such that five times the first diminished by four times the second, shall be equal to two; and four times the second diminished by three times the first, shall be equal to eighteen.
7. Define: elimination, transposition, similar terms, dissimilar terms.
8. A certain number is expressed by three figures; the sum of these figure is 14; the figure in units place is double the figure in hundreds place; and when 297 is added to the number, the sum obtained is expressed by the figures of the number reversed.
9. Write three important axioms in algebra. What is a formula? A rule?
10. Solve $2\sqrt{x} + \sqrt{4x + \sqrt{7x+2}} = 1$.
    and $\dfrac{x + \sqrt{x^2 - 9}}{x - \sqrt{x^2 - 9}} = (x-2)^2$

BOTANY.

First and Second Grades.

1. Give three classifications of plants and state the basis of each classification.
2. Describe the following leaves: the maple, the ash, the willow.
3. What are the essential parts of a plant and what are the functions of each?
4. Mention some of the ways by which plants are fertilized.
5. What is the object of forestry associations? What is the necessity for preservative forestry laws?
6. Compare the horse chestnut and the apple in regard to leaf, flower, and fruit.
7. Name the characteristics of annuals, biennials, and perennials, and say to which family belong respectively the potato, grasses, burdock, sage.
8. What are the ordinary functions of leaves?

9. What is the difference between a cyme and raceme?
10. What produces the flow of sap in plants?

CIVIL GOVERNMENT.

First and Second Grades.

1. Name and define the kinds of government. Which is best for an enlightened people? Why?
2. State briefly what you know of the origin of the constitution.
3. How is the number of members in the United States House of Representatives determined? How the ratio of representation?
4. Give five expressed and three implied powers of Congress; three prohibitions on Congress, three on the State.
5. Trace a criminal case through all the intervening steps in our State from the time the crime is committed till sentence is executed.
6. Give the provision of the "McKinley Bill" known as the "Reciprocity Clause."
7. Describe the "Australian Ballot System."
8. Explain the duties of United States Court of Claims. What takes the place of it in our State?
9. Name and locate the State educational institutions. How are they maintained?
10. Define bill, act, treason, majority, *ex post facto* law.

CIVIL GOVERNMENT.

Third Grade.

1. What is the chief executive officer of the school district, township, county, and State?
2. What officers have supervision of the State University, Normal School, Agricultural College?
3. Explain the law-making process as practiced in our country.
4. What are duties, excises, direct taxes? Can a State levy them?
5. Name the United States courts, the State courts.
6. Name five purposes for which the constitution of the United States was adopted.
7. Can a State levy duties on goods imported or exported?
8. How are vacancies in Congress filled; in the office of commissioner of schools; on the district board?
9. Who are aliens? What rights have they under our laws?
10. What are the terms of office and salaries of director of school board, chairman of the board of school inspectors, commissioner of schools, superintendent of public instruction, and judge of supreme court?

GEOGRAPHY.

First and Second Grades.

1. What is mathematical geography? What apparatus do you use to assist in teaching it.
2. What determines the width of the zones? Why are nearly all civilized nations and large cities in the temperate zones?
3. What are the four divisions in physical North America. Describe each.
4. What do you know of the government, inhabitants, and exports of Brazil?
5. State what you can of the location, government, population, and exports of the Hawaiian Islands.
6. Draw an outline map of Kansas, locating three principal cities and rivers. Give points of history to be studied in connection with this State.

7. From what countries do we get most of our sugar, tea, coffee, silks, cotton, wool, wheat, and manufactured goods?
8. Why is the climate of the west coast of Michigan favorable to fruit production?
9. Why can Australian wool growers compete with American wool growers and pay eleven cents per pound tariff?
10. What existing condition would make life in Italy pleasurable? What would make it distasteful?

GEOGRAPHY.

Third Grade.

1. How do you conduct a class of beginners in geography?
2. Define river basin, wind, climate, longitude, meridian circle.
3. Bound Africa and name two persons who have explored its interior.
4. What is the cause of deserts; in what continent are most of the deserts?
5. Compare the chief rivers of Europe with those of Asia, in size, character, use, and general direction of flow.
6. Name five prominent cities of the United States that do not depend upon water commerce for their importance.
7. What forms of government exist in South America.
8. Where are the Hawaiian Islands? What is their relation to the United States.
9. Why is Chicago the proper place for the World's Fair.
10. What can you tell of the canal scheme concerning the Isthmus of Panama?

GEOMETRY.

First and Second Grades.

1. Define point, plane surface, theorem, problem, chord.
2. Explain the differences between equal, equivalent, and similar figures.
3. Demonstrate: Of two angles of a triangle, that is the greater which is opposite the greater side.
4. The sum of the interior angles of a polygon is equal to what?
5. How would you inscribe a circle in a given triangle?
6. The area of a triangle whose base is eight feet, is ninety-six square feet; what is the area of a similar triangle whose base is ten feet?
7. Demonstrate: The area of a circumscribed polygon is equal to half the product of the perimeter by the radius of the inscribed circle.
8. How would you construct a square equivalent to a given parallelogram?
9. Show that the area of a regular inscribed hexagon is three-fourths that of the regular circumscribed hexagon.
10. The three perpendiculars erected at the middle points of the three sides of a triangle, meet in a point. Demonstrate.

GRAMMAR.

First and Second Grades.

1. Illustrate by sentence a clause used as attribute; *i. e.*, like a noun in predication, forming with an intransitive verb a predicate.
2. Labor sits enthroned in palaces of crystal, whose high-arched roofs proudly sparkle in the sunshine, which delighteth to honor it, and whose ample courts are crowded with the trophies of its victories in every country and in every age.
   (*a*) What are the modifiers of palaces?
   (*b*) What are the predicates of the subordinate clauses?
   (*c*) Give syntax of roofs and sunshine.
   (*d*) Select two adjective phrases, two adverbial phrases.
   (*e*) What modes are found in the above selections?
   (*f*) Parse sits.

3. Write a sentence with a pronoun used as part of the predicate.
4. Give the pronouns that fill this description:
   (*a*) First person, singular number, objective case.
   (*b*) Third, plural, possessive.
   (*c*) Third, singular, masculine, objective.
   (*d*) Second, objective.
   (*e*) First, plural, objective.
5. Define a clause, a phrase, a relative pronoun, and declension.
6. Give the principal parts of lay, set, sit, lie, go.
7. Define (*a*) synopsis, (*b*) passive voice, (*c*) imperative mode, (*d*) complex sentence, (*e*) an antecedent.
8. How would you dispose of the italicized words of the following sentences?
   (*a*) Fools rush *in where* angels fear to tread.
   (*b*) The people are *like* the *sea*, and *orators like* the *wind*.
   (*c*) The doctors pronounced the *disease incurable*.
   (*d*) He waited an *hour*, *staff in hand*.
   (*e*) The gale had sighed *itself* to rest.

GRAMMAR.

Third Grade.

1. Parse him and man in the sentence—I believe him to be the man who stole the wood.
2. Give an example of the regular comparison of adjectives; of the irregular comparison.
3. Illustrate by sentence or sentences the use of (*a*) a plural noun in the possessive, (*b*) a verb having two subjects, (*c*) a verb having two objects.
4. Define tense as used in grammar, giving an example of each tense, first person only, using the verb *see*.
5. Analyze the following:
   He prayeth best who loveth best all things, both great and small.
   For the dear God who loveth us, He made and loveth all.
6. In what respect does an infinitive differ from a noun? From a verb?
7. Name four parts of speech used to connect complex sentences.
8. Use the word *moving* in a sentence: (*a*) As a predicate adjective, (*b*) as an objective complement.
9. Parse the italicized words in the following sentences:
   (*a*) The worm was punished, *sir*, for *early rising*.
   (*b*) The *mingling* notes came *softened* from below.
10. Diagram or analyze each of the following sentences:
    (*a*) I gave him ten cents a pound for it.
    (*b*) I hope that all of you will pass.
    (*c*) It is rare sport to write examinations.
    (*d*) Fine clothes don't make rowdies gentlemen.
    (*e*) Man became a living soul.

UNITED STATES HISTORY.

First and Second Grades.

1. What was the leading purpose in the settlement of each of the following colonies: Georgia, Delaware, Virginia, Maryland, Rhode Island?
2. What advantages did the possession of the St. Lawrence and Mississippi give the French in their competition with the English?
3. In what way are we today affected by the battle on the Plains of Abraham?
4. Name the chief doctrines and leaders of the federalist party.
5. What campaign of the Revolution virtually decided the question of American independence?
6. Mention five important events connected with the history of slavery in this country.
7. In connection with what important events do we find the names of Lewis Cass, Salmon P. Chase, Benj. F. Butler, Thomas A. Edison, Horace Greeley?

8. Why did the English government sympathize with the south in the civil war?
9. What were the political parties called at the time of the election of W. H. Harrison? Of Benjamin Harrison? Were there more than two parties in these elections? If so, name them.
10. With what events in Michigan history are the following names connected: Austin Blair, Pere Marquette, Stevens T. Mason, La Motte Cadillac, Pontiac?

UNITED STATES HISTORY.

Third Grade.

1. In the history of Ponce de Leon a great mistake led to a great discovery. What was the mistake and what was the discovery?
2. What caused slavery to appear and disappear at so early a date from the New England and middle States?
3. In what respects were the New England colonies alike? What was the character of their leaders?
4. Explain the terms: royal province, charter government, proprietary government. Give instances of each among the colonies.
5. Explain the greater relative number of Indian names west than east of the Alleghanies.
6. Give a short account of the last battle fought by Generals Wolf and Montcalm.
7. Write a brief account of the services of LaFayette to the country; of DeKalb.
8. State which of the states came by annexation, which from purchased territory, and which from territory acquired by conquest and purchase.
9. What event in the Civil War came near causing war between the United States and England? How was war avoided?
10. Give a brief account of the building of the Pacific railroad. During whose administration was it completed?

GENERAL HISTORY.

First and Second Grades.

1. Into what three divisions is the Caucasian race divided? Give the leading nations of each.
2. Give a brief history of the Hebrews up to the present time.
3. Give the important events in Roman history during Cæsar's life.
4. Wherein lay the strength of the Athenians? Of the Spartans? Which was better fitted to maintain itself in the then existing condition of civilization?
5. Give an account of the crusades. What effect did they have on civilization of that time?
6. Give an account of the rise and progress of the Saracens. When, where, and by whom did they first meet defeat?
7. What can you say of Waterloo?
8. What is the significance of the "home rule" agitation?
9. Name the three greatest statesmen of the last quarter century.
10. What is the leading question of all civilized nations at the present time?

PENMANSHIP.

All Grades.

1. Write a selection of not less than four lines as a specimen of your hand writing?
2. What movement do you teach? Describe it.
3. Define base line, head line, space in height, connective slant, loop.
4. How will rapidity rank with form, neatness, and legibility? Give reasons for your answer.
5. Analyze, according to your method of penmanship, *u*, *y*, *A*, and *B*.

PHILOSOPHY.

First and Second Grades.

1. How does weight decrease above and below the earth's surface? Where is it nothing?
2. A weight let fall from the top of a tower struck the ground in 3⅓ seconds. How high was the tower?
3. Distinguish between a physical change and a chemical change. Between a molecule and atom.
4. A tank five feet square and ten feet high is filled with water. Find the pressure on one side. Give formula.
5. Designate some way by which the mechanical power of steam is determined.
6. What is meant by specific heat? Describe one method of determining the specific heat of solids.
7. At what distance above the earth's surface will five pounds weight be but five ounces?
8. Insert the shorter arm of a siphon in water, exhaust the air from the tube; the water will flow from the longer till the end of the shorter is uncovered. Give full explanation.
9. (*a*) Describe three machines used in raising water. (*b*) How would you find the specific gravity of a solid body that floats in water?
10. The radius of a wheel being three times that of the axle and the string on the wheel being only strong enough to support a tension equivalent to 36 pounds, find the greatest weight which can be lifted.

PHYSIOLOGY AND HYGIENE.

First and Second Grades.

1. How may an habitually stooping posture injure the health?
2. Name one or more provisions in the structure of the skeleton by which the body is protected from shocks and jars.
3. Name five articles of food that are rich in albumen.
4. What effect on the heart's action has the use of tobacco by children or the excessive use of it by adults?
5. Give three directions for the preservation of the teeth, to which the attention of pupils should be called.
6. Of what are the bones composed and how are the bones of the body classified?
7. What is the object of respiration? Mention the principal organs of respiration.
8. In what way does the oxygen of the air reach the blood?
9. Of what use are tears? By what secreted? What provision is made for their escape from the eye in ordinary quantities?
10. Locate the aorta, the jugular veins, the portal vein, the pulmonary artery.

PHYSIOLOGY AND HYGIENE.

Third Grade.

1. Name three functions or offices of the skin.
2. Of what three parts is the cerebro-spinal system composed?
3. Describe the effects of alcohol on the lining of the stomach.
4. Distinguish between carbonaceous foods and nitrogenous foods. Give example of each.
5. Why does severe physical or mental labor immediately after eating hinder digestion?
6. Explain how the blood circulates through the bones.
7. Tell the use of (*a*) the heart, (*b*) the stomach, (*c*) the capillaries, (*d*) the trachea.
8. Give two good reasons which a teacher might give pupils in advising them to bathe frequently.
9. Of what three parts is the ear composed?
10. What is the office of the epiglottis?

READING AND ORTHOGRAPHY.

First and Second Grades.

1. What is an elementary sound? Through which of the senses do we get ideas from sounds? What is a letter? To which sense do letters appeal?
2. What is phonology? Make and name the principal diacritical marks used in Webster's Unabridged Dictionary.
3. Name three American poets and one of the works of each. Write out a good quotation from each.
4. By what process do you get a pupil to read a selection correctly?
5. Give rules for rising and falling inflections.
6. Give the derivation of telegraphy, spectacle, inspector, biped, impending.
7. Show root, prefix, and suffix in magnify, subscriber, geography, equalize, advert.
8. What is the distinction between accent and emphasis? Give illustration.

9 and 10. Spell list of words.

READING AND ORTHOGRAPHY.

Third Grade.

1. What is phonic spelling? Why so called?
2. Define the following words: extreme, meteor, paltry, determine, apparatus.
3. Use the macron, breve, and circumflex in marking the pronunciation of three words of your own selection.
4. Give your idea of supplementary reading. From the writings of what authors would you select for young pupils?
5. What kind of tone would you use in reading Tennyson's Bugle Song? Whittier's In School Days? Longfellow's Psalm of Life?
6. Name six books that you would recommend to children under fifteen years to read.
7. Explain the meaning of each of the following abbreviations: inst., ult., e. g., viz., MSS.
8. Use the following words in sentences: session, cession, miner, minor, serial, cereal, counsel, council.

9 and 10. Spell list of words.

THEORY AND ART.

First and Second Grades.

1. State fully the character of the questions that should be used in teaching.
2. Define objective teaching. Can it be used to too great an extent?
3. Which should precede, rules, definitions, and classifications, or a knowledge of processes and concrete particulars? Why?
4. Would you have a code of rules and regulations in any school? Why?
5. Which requires the greater maturity of mind, algebra or physiology? Give reason for your answer based upon the natural development of the faculties.
6. Give some of the benefits of having a program of daily work on the board every day.
7. Has the district board the right to outline the course of study for their school, and require the teacher to follow it?
8. What constitutes a legally qualified teacher?
9. Can the voters at school meeting determine whether or not the school is to be taught by male or female teacher?
10. Name the two chief duties of a commissioner.

THEORY AND ART.

Third Grade.

1. In primary schools why should object lessons have a conspicuous place?
2. How are rules, definitions, and principles best taught?

3. Of what value are calisthenic exercises in school?
4. What parts of the class work should pupils do? What parts should teachers do? Give reasons.
5. Give a plan for teaching physiology and hygiene with special reference to the effects of alcoholic stimulants and narcotics.
6. In whom does the right to suspend a pupil lie?
7. Has the district board the right to outline the course of study for their school, and require the teacher to follow it?
8. What constitutes a legally qualified teacher?
9. Can the voters at school meeting determine whether or not the school is to be taught by male or female teacher?
10. Name the two chief duties of a commissioner.

IV. QUESTIONS PREPARED BY THE SUPERINTENDENT OF PUBLIC INSTRUCTION FOR THE REGULAR EXAMINATION, AUGUST 3 AND 4, 1893.

ARITHMETIC.

First and Second Grades.

1. Define ratio, fractional unit, unit of a fraction, standard time, net proceeds, invoice, denominate number, root, par value, and usury.
2. (*a*) If $\frac{4}{5}$ of a bushel of potatoes cost $\$\frac{3}{4}$, what will $\frac{1}{2}$ bushels cost?
   (*b*) 10 is $\frac{2}{3}$ of $\frac{5}{7}$ of what number?
   Analyze the above as you would require of pupils?
3. (*a*) Why reduce fractions to a common denominator before adding or subtracting, and why not before performing the process of multiplication or division?
   (*b*) Divide $\frac{1}{2}\frac{5}{6}\frac{3}{4}$ by $\frac{3}{4}$ without inverting the terms of the divisor, and give your work.
4. (*a*) Two pairs of shoes cost $\$7\frac{1}{2}$; $\frac{2}{3}$ the cost of one pair equals $\frac{1}{2}$ the cost of the other pair; how much did each pair cost?
   (*b*) A can do a piece of work in 10 days; B can do $\frac{2}{3}$ of the same piece in 9 days; how long will it take them both working together to do the same piece of work?
5. If you sell $\frac{1}{2}$ of a quantity of sugar for what $\frac{3}{4}$ of it cost, what per cent do you make? Give analysis.
6. (*a*) It is 1 p. m. at A when it is 11 a. m. at B; which way is B from A and how far?
   (*b*) If the difference in time between two places on the same parallel is four minutes, how many miles is one place from the other?
7. (*a*) If a rope $\frac{3}{4}$ inches in diameter supports 500 pounds, how many pounds will a rope, of similar material and make, $1\frac{1}{2}$ inches in diameter support?
   (*b*) If a ball 5 inches in circumference weighs 32 pounds, what will a ball 2 inches in diameter weigh?
8. A cylindrical cistern has a capacity of 60 barrels of water; it is ten feet in depth; find the diameter.
   NOTE—Use $4\frac{1}{2}$ cubic feet to the barrel.
9. The hands of a clock are together at noon; when will they be together the seventh time? Give analysis.

ARITHMETIC.

Third Grade.

1. Name five topics that should be omitted in the first study of the pr[illegible]h-metic. Give a reason for each omission.

2. Find the greatest common divisor and the least common multiple of 24, 84, and 108; also of $\frac{3}{8}$, $\frac{4}{15}$, and $\frac{1}{12}\frac{5}{8}$.
3. At $\$1\frac{1}{2}$ a yard, how much will it cost to carpet a room 19 by 15 ft. with carpet $\frac{3}{4}$ yard wide?
4. (*a*) What part of 3 is 2; of 2 is 3; of $\frac{1}{2}$ is $\frac{1}{3}$?
   (*b*) How many times $1\frac{1}{2}$ is $\frac{3}{4}$?
   (*c*) Reduce to least common denominator $\frac{3}{4}$, $\frac{5}{8}$, $2\frac{1}{2}$, and 5.
5. A can do a piece of work in 10 days, B in 9 days, and C in 15 days; how long will it take all three to do the same piece of work?
6. A horse and buggy cost $243 dollars; the horse cost $3\frac{1}{2}$ times as much as the buggy; how much did each cost? Give your solution.
7. How many bushels of wheat can be stored in a bin 10 ft. long, 4 ft. wide, and $3\frac{1}{2}$ ft. deep?
8. Write a promissory note, a draft, a receipt.
9. Write an original problem in compound proportion, solve the same, and give your method of teaching proportion.
10. A triangle has an area of 1200; its altitude is 40; what is the area of a square one of whose sides equals the base of the given triangle?

ALGEBRA.

First and Second Grades.

1. (*a*) Wherein does algebraic notation differ from that of arithmetic?
   (*b*) What are positive and negative terms?
2. Simplify $a-[5b-\{a-3(c-b)+2c-(a-2b-c)\}]$.
3. Explain why the process of subtraction in algebra does not always imply diminution.
4. A starts from a certain place and travels at the rate of 7 miles in 5 hours; B starts from the same place 8 hours after A and travels in the same direction at the rate of 5 miles in three hours. How far will A travel before being overtaken by B?
5. Find a number which, when multiplied by 4, is as much above 35 as it was originally below it.
6. Expand $(2x+3y)^5$ by the binomial formula.
7. Define and illustrate the various kinds of exponents.
8. Simplify $(25a^2x-12ax^3-16a^4+4x^4-24a^3x)^{\frac{1}{2}}$.
9. Find L. C. M. of $\begin{cases} x^3+xy^2+x^2y+y^3, \\ x^3+xy^2-x^2y-y^3, \\ x^2-y^2. \end{cases}$
10. Given $\sqrt{x+19}+\sqrt{x+10}=9$, to find x.

BOTANY.

First and Second Grades.

1. Define biology, botany, and morphology.
2. Give the methods of conveying the pollen from the stamen to the pistil.
3. What are the principal functions of leaves? Name and describe the different kinds of leaves with respect to their venation.
4. Classify the deciduous trees found in your locality, as to whether dicœcious, moncœcious, polygamous, or perfect flowers.
5. Give characteristic marks and name one or two species of one of the following orders: Rosaceæ, Silicaeæ, Cruciferæ, Compositæ, Geraniaceæ.
6. What can you say of respiration and circulation in plants?
7. How would you teach botany to pupils below the high school grades?
8. What is the difference between exogenous and endogenous plants? In analyzing how do you determine to which class a plant belongs?

9. Give classification of leaves as to general outline. Give example of and draw an ovate leaf; a lanceolate leaf.
10. Describe the two kinds of placenta; illustrate with examples and drawings.

CIVIL GOVERNMENT.

First and Second Grades.

1. (*a*) How does the constitution of the United States differ from that of England? (*b*) Give a brief account of the framing of the constitution of the United States.
2. (*a*) What powers, if any, does congress have that are not delegated to it by the constitution? (*b*) What powers, if any, not delegated to them by the constitution of the United States, are held by the States?
3. (*a*) How may new States be admitted to the union? (*b*) How are new counties formed; new townships?
4. How is the number of members in the State legislature determined? How many members in each house at present? How are they apportioned?
5. What constitutes citizenship? In what ways may a person become a citizen of the United States?
6. At what elections may women vote? What qualification is required of women to vote at these elections?
7. Give the provisions of our compulsory school law.
8. How are ambassadors and consuls chosen, and what are their duties?
9. Give two duties of each of the following officers: Governor, Auditor General, Secretary of State, Secretary of the Interior, Judge of the Circuit Court, Prosecuting Attorney, County Commissioner of Schools, Town Clerk, School Inspector, Assessor of School Board.
10. What is the most important question now before our government? State how you think it may be solved.

CIVIL GOVERNMENT.

Third Grade.

1. Define citizen and inhabitant.
2. How are the funds for carrying on the United States government secured? How for the State government?
3. Where is vested the power to regulate commerce between States, with other nations, and with the Indians?
4. What officers (*a*) issue warrants, (*b*) make arrests, (*c*) grant marriage licenses, (*d*) levy taxes, (*e*) open new highways, (*f*) grant State certificates, (*g*) fix the salary of the county commissioner of schools, (*h*) record deeds, (*i*) control the University, (*j*) compile the census?
5. What is an insolvent law, a receiver, an assignee, a preferred creditor, an assignment?
6. (*a*) Name the United States courts. (*b*) How is each constituted?
7. Explain how war may be engaged in; also how peace may be restored.
8. In what cases has the supreme court of the United States jurisdiction?
9. Give five measures of general interest passed by the last legislature.
10. Give the steps taken to nominate a President of the United States.

GEOGRAPHY.

First and Second Grades.

1. Define the subdivisions of this subject.
2. (*a*) Why should the study of relief forms of the globe go hand in hand with the study of history? (*b*) In the study of land masses which dimension is of the most importance, length, breadth, or height? Why?
3. Explain causes of oceanic currents and name three principal ones.
4. Make a list of six important topics of study for the State of Mic[illegible]ler of importance.

5. Define orbit, ecliptic, zodiac, water-shed, isothermal lines.
6. (*a*) Describe the climate and productions of the small, rich lowland lying between our Western Highland and the Pacific. (*b*) Why is the climate of the low eastern half of the United States so much cooler than that of this Western Highland?
7. (*a*) What are the three great interior water-routes of the United States? (*b*) Give termini of three of our great central trunk lines. (*c*) In what countries is the caravan trade chiefly carried on? Name any cities or towns now on the line of caravan trade.
8. Name two empires, two republics, and three independent kingdoms in Europe.
9. (*a*) What country has the greatest maritime commerce of the world? (*b*) What river in Europe is most sought by tourists? Why? (*c*) What proportion of the world's population is American?
10. Give some fact regarding each of the following: Berlin, Corea, Tokio, Oceanica, Honolulu.

GEOGRAPHY.

Third Grade.

1. (*a*) Geography is the basis for what two studies?
   (*b*) In what way would a visit to the World's Fair benefit the student of geography?
2. (*a*) Why are spring torrents much less frequent in a tree-covered valley than in one devoid of trees?
   (*b*) Why has the lowland finer soil than the highland?
3. Draw outline map of southern Michigan, locating its metropolis, its capital, its principal river, three principal railroads, and your own county.
4. Give five reasons why Michigan is a desirable place in which to live.
5. Name the three motions of the water in the ocean, stating cause of each.
6. (*a*) Name the principal water-sheds of North America.
   (*b*) What are the most important colonies of the British Empire?
7. Describe a large river and locate a city in each of the five grand divisions.
8. Locate and describe the District of Columbia and Yellowstone National Park.
9. Name the states of the union that rank first and second in the production of (*a*) wheat, (*b*) corn, (*c*) iron, (*d*) manufactured goods, (*e*) cotton.
10. Explain the difference between local and standard time and why it became necessary to adopt the latter.

GEOMETRY.

First and Second Grades.

1. (*a*) Explain difference between demonstration and solution.
   (*b*) Define the various kinds of lines.
2. (*a*) Name the geometrical magnitudes.
   (*b*) Why is a point not a magnitude?
   (*c*) Define a tangent.
   (*d*) Define a secant.
   (*e*) Define a trapezium.
3. Problem—To find the center of any circumference?
4. How many times will the wheel of a 24-in. safety revolve in traversing 1,904 rods?
5. Demonstrate; If two parallel lines are cut by a third, the sum of the interior angles on the same side of the secant equals two right angles.
6. (*a*) State the proposition known as Pythagorean. Why so called?
   (*b*) Name three different conditions under which two given triangles will be equal.
7. Show that a triangle is equivalent to one-half of any parallelogram having an equal base and altitude.
8. Prove that the diagonals of a square are equal and bisect each other at right angles.
9. (*a*) Define a right, a salient, and a re-entrant angle.
   (*b*) Is an equilateral inscribed pentagon necessarily regular? Give reason.

10. (*a*) If the distance between the centers of two circles is greater than the sum of their radii, how are they located regarding each other?
(*b*) If equal to the sum of radii?
(*c*) If less?

GRAMMAR.

First and Second Grades.

1. Diagram or analyze: "We told her nothing about *our letting* the fires *go out*."
2. (*a*) Point out different parts of speech used in above sentence. (*b*) Give principal parts of the verbs and specify mode used. (*c*) Parse italicized words.
3. Write a simple sentence and change it to a complex declarative and a compound interrogative.
4. (*a*) Define a substantive and illustrate by sentence. (*b*) Name four parts of speech used to connect clauses in complex sentences.
5. Write chart showing various divisions of the adjective.
6. (*a*) Illustrate the use of "wise" as a predicate adjective. (*b*) As a factitive predicate (objective complement).
7. (*a*) In what respect does an infinitive differ from a pure verb? (*b*) When is the infinitive sign omitted?
8. Explain difference between ellipsis and abridgment. Illustrate both in one sentence.
9. Correct the following and give reasons for the change: (*a*) Has the bell rang yet? (*b*) A crowd of men were approaching. (*c*) Don't he care to go? (*d*) You had better go home. (*e*) He lives at Mr. Smith's, the merchant's.
10. State some particular benefit to be derived from attendance upon teachers' institutes, and express your thoughts so as to require the use of both comma and semicolon.

GRAMMAR.

Third Grade.

1. Diagram or analyze: "*It* comes *either* from weakness *or* guiltiness *to fear* shadows."
2. Parse italicized words in above.
3. (*a*) Compare an irregular descriptive adjective. (*b*) Name a demonstrative adjective and a cardinal numeral.
4. (*a*) Make a sentence containing "yard" used as adverbial object. (*b*) Give rule for forming plural of compound words.
5. What is the most important word of a sentence? Write a sentence where this word is not expressed.
6. (*a*) What properties have verbs? (*b*) What mode of the verb lacks some of these properties? Why?
7. (*a*) Give progressive passive infinitive of the verb "lay." (*b*) Past perfect potential of "go."
8. In the following sentence classify the subordinate clause and abridge it to a simple sentence: "I told him he must go."
9. Write sentences showing both transitive and intransitive use of the verb "break."
10. Capitalize and punctuate the following: the great lesson taught by st. john was little children love ye one another.

UNITED STATES HISTORY.

First and Second Grades.

1. State clearly the difference between history and biography?
2. What effect has the history of Great Britain and France had on the history of the United States?
3. Give the motives which prompted the exploration and settlements in this country by the Spanish, Dutch, French, and English.

4 and 5. Give a brief history of slavery in the United States, beginning with its introduction into the colonies. Give the various acts of congress affecting it and name the persons who were prominent in the struggle between the slave and free states.

6 and 7. Give a brief history of the tariff since 1789. Give names of ten men who have been or are prominent in the struggle between tariff and free trade.

8. What part did Michigan take in the French and Indian wars, in the Revolution, in the War of 1812, and in the Rebellion?

9. (*a*) What is known as the "Sherman Act?" (*b*) What is free coinage of silver? (*c*) Why was an extra session of congress called?

10. Name five leading statesmen, five famous inventors, and five noted authors, all Americans and all connected with the past twenty-five years of our history, and state some one thing for which each will be remembered.

UNITED STATES HISTORY.

Third Grade.

1. Explain the difference in the treatment of the Indians by the French and by the English.

2. Why has Spanish America not advanced in civilization as has English America?

3. (*a*) Give an account of the events which led to the writing of the "Star Spangled Banner." (*b*) Write one stanza of the song.

4. Give the acquisitions of territory to the United States by conquest, by purchase, by annexation.

5. In connection with what events in our history are the following: 1701; Kearsarge; Harriet Beecher Stowe; Lord Howe; Salmon P. Chase; 1803; Guiteau; Aaron Burr; Wm. Pitt; Cyrus W. Field?

6. What event has recently brought the "Monroe Doctrine" into prominence? How does it apply to the question in dispute?

7. Name four battles of the Civil War. Give the results of each and the commanding officers on each side.

8. Who was the founder of the educational system of Michigan? What is the origin of the primary school interest fund of Michigan.

9. Name the three greatest men and two greatest women connected with our history during the last quarter of a century. State for what each is noted.

10. When will congress convene again? What reasons did President Cleveland give for calling this session?

GENERAL HISTORY.

First and Second Grades.

1. Name five important events in general history that had a direct bearing on the history of America.

2. Give the source and movements of the Aryan stock.

3. For what are the following dates and names noted: Aristides, Anthony, 1066. Bede, Henry IV of France, Charlemagne, Theodosia, Agincourt, Poitiers. Saladin?

4. (*a*) What characterized the middle ages?
(*b*) What effect had the feudal system upon the civilization and the growth of political freedom in Europe?

5. Give a brief sketch of the founding of England.

6. Name five teachers or instructors that have had great influence with their sovereigns.

7. Give a brief account of the struggle for "Home Rule." Who is author and champion of the measure?

8. What led to the formation of the German empire? What effect has the formation had on political Europe?

9. What can you say of Russia as to government, military power, religion, and civilization?

10. Give one important event, with period, with which each of the following persons was connected: Solon, Draco, John Calvin, Martin Luther, Savonarola, Bismarck, Dom Pedro, Blaine, Pitt, Charles Martel, and De Lesseps.

PENMANSHIP.

All Grades.

1. In what grade should penmanship be taught? Give reasons for your answer.
2. Would you teach printing before script? Why?
3. Would you encourage the use of slates by beginners in penmanship? Why?
4. (*a*) What use do you make of the blackboard in teaching penmanship?
   (*b*) What part do you take in the writing class?
5. (*a*) Analyze the letters N, W, and O.
   (*b*) Give the rules for spacing.
6. Write with pen and ink, a selection of not less than two lines as a specimen of your hand writing. (50%)

PHYSICS.

First and Second Grades.

1. (*a*) Of what does physics treat?
   (*b*) Define matter; give its structure.
   (*c*) Name and define the most important properties of matter, both general and specific.
2. (*a*) When several forces act upon a body, what effect will any one have upon the action of any of the others, considered independently?
   (*b*) Can velocities be resolved in the same manner as forces?
3. Describe a barometer and give its uses.
4. (*a*) A solid weighs 120 grammes in air, 90 grammes in water, and 78 grammes in another liquid; required the density of the other liquid.
   (*b*) Explain how the volume of an irregular body may be obtained by floating in a liquid.
5. (*a*) A stone thrown over a tree reaches the ground 100 feet from where it was thrown, in three seconds; how high did the stone go? Explain your work. (*b*) According to Newton's Laws, is it possible to have uniform motion in a curve? Why?
6. Physically, what is heat? Give the distinction between heat and cold. Name as many sources of heat as you can. Give points of similarity between heat, light, and sound.
7. Illustrate several ways of transferring heat into work; also work into heat.
8. How is the electricity which furnishes power for street cars, electric lights, etc., produced? How is it measured? What is lost in conducting? Explain the difference between an incandescent and an arc light?
9. Explain thoroughly the phenomenon of mirage; give cause. For near sightedness should a person have double concave or double convex lenses in his glasses? Why? Explain by means of a diagram.
10. (*a*) State the difference between the weight and pitch of a tone.
    (*b*) What effect has length, size, and tension of a string on the tone it emits?

PHYSIOLOGY AND HYGIENE.

First and Second Grades.

1. (*a*) Since the brewer and baker both use grain and yeast, why is it that their products differ so widely in nourishing power?
   (*b*) Why does a glass of beer *seem* to strengthen a person?
   (*c*) What is the difference between chemical and vital action?
2. State the best and worst method of cooking meat, giving reasons.
3. (*a*) Which is most indispensable to the life of man, solid or liquid food? Why? (*b*) Name three reasons why the potato is such a valuable food product.

4. Describe the process of insalivation.
5. (*a*) Why is a sick person's breath so impure? (*b*) How does nature purify the air? (*c*) Give two reasons why cigaret smoking is more injurious than any other form of tobacco.
6. Compare the use of ligaments and tendons, and locate the most powerful tendon of the body.
7. (*a*) Describe the muscular coat of the stomach and its use. (*b*) What fluids aid in stomachic digestion?
8. Why is the image upon the retina inverted, and why do we not see things upside down?
9. Name any two features in the construction of the human body that seem to you especially valuable.
10. Define the functions of the three portions of the brain.

PHYSIOLOGY AND HYGIENE.

Third Grade.

1. (*a*) What simple experiment would show your pupils that alcohol is a deadly poison to all living things?
   (*b*) Why can a drunken man put his finger on a hot stove and yet feel no pain?
   (*c*) When alcohol is taken into the system, are the internal organs able to utilize it in any way?
2. (*a*) Why are the white kinds of flour less nutritious than the darker?
   (*b*) Why does bread and butter form an almost perfect article of food?
3. What are sebaceous glands and where found?
4. Compare the arteries and veins.
5. (*a*) Why are we "out of breath" after running?
   (*b*) Explain the object of respiration.
6. Name the several nerves acting as a medium for the five special senses, stating which one is least liable to error.
7. (*a*) Describe the papillæ of the tongue.
   (*b*) What portion of it is most sensitive to taste?
8. Describe the crystalline lens and tell why the vision of the albino is confused.
9. (*a*) Give rules for the care of the ear.
   (*b*) Of the eye.
10. (*a*) Name the bones of the skull.
    (*b*) What wise provision allows for the growth of the brain?

READING AND ORTHOGRAPHY.

First and Second Grades.

1. (*a*) From what is the English language mainly derived and what other languages have contributed largely? (*b*) Which class of words are mainly used in our proverbs?
2. (*a*) Define pronunciation in its narrowest sense. (*b*) Name three errors in pronunciation which you have most frequently noted.
3. (*a*) In what way does an understanding of etymology assist in the use of words? (*b*) Give both primary and secondary derivative of glass.
4. Give meaning of the following prefixes and suffixes and illustrate the use of each: *anti, fy, ish, retro, pan.*
5. Quote a stanza from your favorite American poet, and name your favorite author in fiction and history.
6. (*a*) Would you precede or follow the reading lesson by spelling? (*b*) Why is it best to teach the one in connection with the other?

7. (*a*) Construct a sentence containing the following words: *pear, pare, pair.* (*b*) Write abbreviation for *junior, baronet, Florida, administratrix, noon.*

8. "A day, an hour of *virtuous liberty*
Is worth a whole *eternity* of *bondage.*"

(*a*) Mark vowels in above. (*b*) Designate diphthongs and digraphs. (*c*) Point out substitute and silent letters. (*d*) Indicate the most emphatic word and required inflection. (*e*) Show division of syllables in italicized words.

9 and 10. Spell list of words.

READING AND ORTHOGRAPHY.

Third Grade.

1. (*a*) What inflection is generally required for expressions of strong emotion? (*b*) What for tender emotion?
2. (*a*) Name the chief fault to be avoided in using the Word Method. (*b*) What are some of its advantages over the old method?
3. To what extent do you pratice concert reading and why must this exercise be very judiciously used?
4. (*a*) How are history and government commonly mispronounced? (*b*) Mention two other common errors in pronunciation.
5. Insert the following words in a sentence: Forth, ascent, bale, cem'ent, cement'.
6. (*a*) How much attention should be paid to grammatical pauses in reading? (*b*) What are rhetorical pauses and what determines their use?
7. (*a*) What benefit is gained by phonic spelling? (*b*) What proportion of oral and written spelling do you use?
8. Show division of syllables and accent for polysyllables in the following: "He sought the dictionary to ascertain how to spell morphine."

9 and 10. Spell list of words.

LIST OF WORDS.

1. phlegm
2. cargoes
3. folios
4. dilatory
5. diligent
6. penitentiary
7. acoustic
8. marriageable
9. millinery
10. Wednesday
11. niece
12. different
13. diacritical
14. co-efficient
15. epaulet
16. chandelier
17. lieutenant
18. Pentateuch
19. eider-down
20. California
21. aeolian
22. parallel
23. lachrymal
24. reconnoiter
25. independent

THEORY AND ART AND SCHOOL LAW.

First and Second Grades.

1. What is attention? How may it be acquired, and of what educational value is it?
2. In what circumstances would you encourage the study of algebra or philosophy in a mixed school?
3. What are the emotions proper to excite in order to maintain discipline? Is corporal punishment ever to be used, and if so, when?
4. What in your judgment are the greatest defects in our common school system? Name any magazine articles or other discussions which you have recently read on this subject.
5. (*a*) State three characteristics of a teacher that tend to cause pupils to respect him. (*b*) State five hygienic laws which every teacher should endeavor to impress upon the mind of his pupils.
6. (*a*) What is the minimum number of months required to be taught in a district of 30 or more children? (*b*) In a district of 800 children?

7. The law prescribes seven ways in which a district office may become vacant. Mention five of them.
8. Has a district board the authority to exclude public meetings from the school house? If so, to what extent?
9. On what date should the triplicate reports of the township board of inspectors be made? With what officers are these reports filed?
10. What districts may establish libraries and be entitled to a share of the money apportioned for library purposes?*

* This law was changed by the last Legislature. Examiners will make proper allowance in marking answer.

DECISIONS

OF THE

SUPREME COURT OF MICHIGAN

ON MATTERS OF

EDUCATIONAL INTEREST.

FILED DURING 1893.

I. Detaching Territory from Graded Districts.
II. Notices for Calling Special School Meeting.
III. Teachers' Contracts Made Prior to Annual School Meeting.
IV. County Commissioners of Schools—Qualifications for Office.
V. Authority to Purchase School Apparatus.

SUPREME COURT DECISIONS.

I. SCHOOL DISTRICTS—DETACHING TERRITORY FROM GRADED DISTRICTS.

Burnett et al. vs. Board of School Inspectors of Chickaming.

Supreme Court of Michigan, Oct. 2, 1893. Change of School District—Consent of Trustees.

2 How. Stat. §5135, requires the consent of a majority of the trustees of a school district to the detaching of any territory from one school district and the attaching of the same to another. The only evidence of the consent of the trustees of a district to such a change was a paper signed by four of them to such consent, but not showing any corporate action by them, and a paper signed by the director of the district showing that at a meeting of the trustees, consent was given to such change, but not stating that a majority of the trustees gave such consent.

Held, That the board of school inspectors had no jurisdiction to make such change.

Certiorari, at the relation of Jane Burnett, Peter Tebodo and George Tebodo, against the board of school inspectors of Chickaming.

Writ granted.

George S. Clapp for relators.

GRANT, J. The object of this proceeding is to test the validity of the action of the defendants in detaching certain territory from school district No. 3, and attaching the same to the school district No. 4, of the township of Chickaming. The action must be held void because the inspectors did not have before them legal evidence of the consent of a majority of the trustees of district No. 3 to the alteration. 2 How. Stat. §5135, requires the consent of a majority of the trustees of the district, which consent must be spread upon its records. In obedience to a call, the defendant board met, Nov. 4, 1892. The only evidence of consent then produced before it was a paper signed by four of the trustees of district No. 3, to such consent. This paper did not show corporate action on the part of such trustees, nor did it contain any evidence that such action was taken in their corporate capacity. The defendant board thereupon adjourned to Nov. 12. At this meeting was produced a paper signed by the director of school district No. 3, purporting to state the action taken at a meeting of the trustees of said district whereby consent was given to detach the territory. This record was fatally defective, in that it did not show that a majority of the trustees gave their consent. The defendant board therefore had no jurisdiction in the premises. It is unnecessary to note the other defects alleged. The proceedings must be quashed.

The other justices concurred.

II. NOTICE FOR CALLING OF SPECIAL SCHOOL MEETING.

James H. Peters vs. The Township of Warren.

This action is brought to recover $147.31 of a special school tax paid by the plaintiff under a written protest. The tax was voted at a special school meeting of District No. 1, of said township, for the erection of a school house. The principal question is

whether the notice of the special meeting was broad enough to include the voting of money for that purpose.

At the annual school meeting, held September 7, a resolution was offered to bond the district for $5,000 to procure a site and build a school house, but was not carried and the meeting adjourned. On September 10, of the same year a special meeting was called by the school board, for the purpose of taking a vote to raise the necessary money to carry on the school the ensuing year, and "Also for the purpose of taking a vote upon the question of building a new school house," and such other questions as are necessarily related to the building of said school house.

Section 5047, 2d How. Stat. provides, "But no special meeting shall be called unless the business to be transacted may lawfully come before such meeting, and no business shall be transacted at a special meeting unless the same be stated in the notice of said meeting."

The court instructed the jury that the notice was insufficient, and directed a verdict for the plaintiff. Liberal rules of interpretation must be applied to these notices and, if they be such as under a fair construction to give notice to the electors of the purpose for which the meetings are called, they must be held sufficient. The necessary funds for the erection of a school house can only be raised in two ways; viz., by direct tax or the issue of bonds. This the electors of the district were presumed to know. There is no room for holding that they could have been misled by this notice. The electors were notified that, when assembled, they were to vote whether they would erect a new school house and whether they would raise the necessary funds in either of the two methods provided by law for that purpose. It would be a reflection upon the intelligence of the electors of the district to hold that they did not understand the purposes for which they were called together.

Judgment reversed and entered in this court for the defendant, with the costs of both courts.

C. B. GRANT,
CHAS. D. LONG,
FRANK A. HOOKER,
JOHN W. MCGRATH,
R. M. MONTGOMERY.

III. TEACHERS CONTRACTS MADE PRIOR TO ANNUAL MEETING—LEGALITY OF CERTIFICATES.

Elizabeth R. Farrell vs. School District No. 2 of the Township of Rubicon.

The defendant is a graded school district with five trustees. Plaintiff has been employed as a teacher in the school during the latter part of the school year 1891. It is claimed that she was employed under a written contract dated June 27, made pursuant to a resolution of the board on June 20 for the ensuing school year, commencing in September. She presented herself in the school room on the morning of the opening of school to perform her contract, but was informed by the director that another teacher had been employed. She also appeared on the second and third morning for a like purpose, but on the third morning was denied permission to enter the school house. She claims that she made proper efforts to obtain like employment in other schools but failed. At the close of the year she brought this suit for breach of the contract to recover as damages the salary of $400 mentioned in it. The court directed a verdict in her favor.

The facts will be stated in connection with each point raised by the defense.

1. June 20th a meeting of the school board was held at which all the members were present. A resolution was adopted by a vote of three to two to employ plaintiff as principal for the ensuing school year at a salary of $40 per month. June 27 the contract was made, signed by three members of the board, the moderator, assessor, and one trustee, and by the plaintiff. It is insisted that the contract is void because not signed by the director. Under How. Stat., Sec. 5134, subdivision 4, which makes it the duty of the board to employ qualified teachers and to require the director and moderator to make contracts with them on behalf of the district. This point is ruled against the defendant in Crane *vs.* School District, 61 Mich., 299. It is not in the power of the director and moderator to defeat the action of the board by refusing to sign a contract authorized by it.

2. The contract was valid, though made prior to the annual school meeting. The old board had the right to employ teachers for the ensuing year.

Tappan *vs.* School District, 44 Mich., 500.
Cleveland *vs.* Amy, 88 Id., 374.

The reasons for the rule are fully stated in Tappan *vs.* School District. The statute providing that the annual meeting may be changed from September to July does not affect the rule.

3. After the annual election in July, at which two new trustees were elected, and on July 18, the board met and by resolution rescinded the action of the old school board in hiring teachers for the ensuing year. July 20 notice of this action was mailed to the plaintiff, and she admits having received it. For this action no reason was given. It was not in the power of the subsequent board to rescind a contract which was legally made by the old board, without some valid reason therefor. These school contracts are governed by the same rules as other contracts and, when once legally made, are equally binding upon both parties thereto. Neither can violate them without compensating the other for the damages sustained.

4. Plaintiff introduced in evidence two certificates, one a third and the other a first grade. The first grade certificate showed that she was qualified to teach in any school district in this State for four years. These were objected to as incompetent. The objection now made is that there was no proof that they had been issued and signed by the secretary and chairman of the board that issued them. If the defendant then claimed that there was a defect in the certification, it was its duty to point it out upon the trial. Technical objections of this character cannot be taken advantage of under a general objection of incompetency and immateriality.

Krolik vs. Graham, 64 Mich., 226.
Wood vs. Weimar, 104 U. S., 786.

5. No evidence was introduced on the part of the defendant as to any efforts made by plaintiff to secure the like employment elsewhere, nor as to her opportunities for doing so, except that which was elicited from the plaintiff's cross examination. Upon receipt of the letter notifying her of the resolution of the board attempting to rescind the contract, she at once replied that she would insist upon keeping the contract, and that she would be present at the beginning of the school year for that purpose. She testified that, between the time of the receipt of this letter and the opening of the school, she inquired of some personal friends in Livingston county, where she lived, if they knew of any vacancies in the graded schools of that county. She made no application because she knew of no vacancy. Most graded schools employ their teachers before the close of the school year in June. After September 5, she made several applications for positions in graded schools, but did not find any. She made no applications in ordinary district schools.

The law does not require that the plaintiff should have sought or accepted service of a different grade or character from that in which she was employed. Her testimony was uncontradicted, nor in any manner impeached. The court, therefore, was right in holding that she had done all that the law required her to do in attempting to find other employment.

Wood on Master and Servant, 242 and 243.

A plaintiff may rest his case upon proof of a contract of service, its breach and damages which are determined by the contract price of the services. The defense that he was engaged in other profitable employment or might have had other similar employment, is an affirmative one and the burden of proof is upon the defendant.

Green. Ev. Sec. 261.

If an employer sees fit to discharge his employee without legal excuse, it is equally within his power to seek and, if he find, to offer other similar employment to such employee, or to furnish evidence to the jury that such employment might with reasonable effort have been obtained. When he has been guilty of the wrong, the law casts the burden upon him to show that the employee has not or need not have suffered damages.

6. When a master rescinds a contract of service before the time agreed for the commencement of such service, the servant has his choice of two courses; he may consider and treat the contract as rescinded; or he may treat it as still existing and tender performance at the proper time.

Howard vs. Daly, 61 New York, 362.

The same reasoning does not apply to a recision before the time fixed for the service to commence, that does to a discharge from service. In the latter case the servant is

presumed to be out of employment and it is clearly his duty to accept other similar employment. But in the former case he is not presumed to be out of employment and cannot therefore in reason be required to seek other employment to cover the future period. If, however, as in the case of teachers, they are taking their vacation for rest and recreation, they cannot be legally called upon to abandon these and seek employment for the coming year. Plaintiff was therefore justified in notifying defendant that she would insist upon her contract and be ready at the proper time to perform it.

7. The court rejected the question, "Did you ever study geometry?" This was one of the studies named in the course of study in the high school department. This was offered for the purpose of showing the incompetency of plaintiff to perform her contract. The course of study was introduced in evidence and shows that geometry was an optional study of the spring term in the tenth grade. This was the only evidence offered to show incompetency, but perhaps it is sufficient to raise the question of the right to defend on this ground. Plaintiff's certificate showed that she had passed an examination and was qualified to teach in this particular school. Undoubtedly the school board, upon application made to it, has the right to require further examination of the applicant to determine whether or not it will employ him. That was not done in this case. Plaintiff had already taught in this school for some time. Both she and the board were familiar with the course of study. She made no concealments as to her qualifications. Her certificate entitled her to teach if the board saw fit to employ her. Under these circumstances we are of the opinion that the board had no right to rescind the contract even if it had been done on the ground of alleged incompetency. It is not claimed that the board was not aware of her qualifications at the time the contract was made. She had the right to enter upon the service and have her competency determined by the service rendered.

It is a hardship upon the district to be compelled to pay for services which were not rendered, and upon the contrary it is an equal hardship upon the plaintiff to be thus thrown out of employment. The defendant is responsible for the hardship through the action of its officers and must therefore suffer the consequences.

Judgment affirmed.

C. B. GRANT,
CHAS. D. LONG,
FRANK A. HOOKER,
JOHN W. MCGRATH,
R. M. MONTGOMERY.

IV. COUNTY COMMISSIONER OF SCHOOLS—QUALIFICATIONS FOR OFFICE.

The People, ex. rel. the Attorney General vs. Louis V. Howlett.

Section 3 of Act No. 147, Laws of 1891, which provides that no person shall be eligible to the office of county commissioner of schools who shall not be a graduate in the literary department of some reputable college, university, or State normal school, or hold a State teacher's certificate, or who shall not have held a first grade certificate within two years next preceding the time of his or her election, or shall [not] have held the office of county commissioner under the Act, is construed as follows:

(*a*) A high school is not a "college," within the meaning of the Act.

(*b*) A person holding a special first grade certificate not granted at one of the regular public examinations provided for in Act No. 266, Laws of 1887, and Act No. 147, Laws of 1891, or who holds a first grade certificate granted to him without an examination, or who receives such a certificate upon a public examination after his election, is not eligible to the office of county commissioner of schools.

(*c*) Holding the office of secretary of the board of examiners under Act No. 266, Laws of 1887, is not a compliance with the provision, "or shall have held the office of county commissioner under this Act."

Error to Livingston. (Person, J.) Argued November 17, 1892. Decided December 22, 1892. Information in the nature of *quo warranto* to test the right of respondent to hold the office of county commissioner of schools for Livingston county. Judgment of ouster affirmed. The facts are stated in the opinion.

William P. Van Winkle for respondent, A. A. Ellis, Attorney General (Luke S. Montague of counsel) for the people.

LONG, J. This is a proceeding by *quo warranto* to inquire into the right of the respondent to hold the office of county commissioner of schools for Livingston county. The cause was heard in the circuit court of that county, findings of fact and law made and judgment of ouster entered. The case is here to review the action of the trial court.

It appears from the findings of fact that the respondent, at the time this proceeding was commenced, was exercising the duties of county commissioner of schools for Livingston county, under the provisions of Act No. 147, Laws of 1891, by virtue of an election by the board of supervisors held June 24, 1891, and that he entered upon the duties of the office on the fourth Tuesday of August following. The sole question is upon the eligibility of the respondent.

The court found that he was 21 years of age, of good moral character, learning, and ability to instruct and govern a school, and that he had taught, prior to his election, at least one year with ability and success; that in 1887 he graduated from the Howell Union School, receiving a graduating diploma which entitled him to admission to various courses in the Michigan University without further examination; that all branches of study required for a first grade certificate were included in his course at the Howell Union School; that prior to his election he had also graduated from the law department of the Michigan University and was a member of the bar of Livingston county, and was also secretary of the board of school examiners of that county; that he held, at the time of his election, a certificate issued by the board of school examiners of Washtenaw county, purporting to be a "special first grade certificate;" but such certificate did not purport to be a regular first grade certificate, nor was it issued or dated at any of the regular public examinations provided by law; that after his election and prior to the commencement of his term of office, the board of county school examiners of Washtenaw county issued and delivered to him a teacher's first grade certificate, in due form of law and regular upon its face, signed by the secretary and chairman of such board, and which bears the date of August 7, 1891; but that the respondent was not present at the examination, though the board, from personal acquaintance with him, were satisfied that in all respects he was qualified to hold such certificate, and it was issued in good faith, but not delivered to respondent until four weeks later; that since the filing of the information in this case, the board of school examiners of Macomb county, on March 3, 1892, issued to him a teacher's first grade certificate in due form of law; that this was upon examination of the respondent at a regular meeting of the board, though he was not a resident of that county at the time and not intending to teach in that county. It was found, however, by the court below that, at the time of his election, the respondent was not a graduate of the literary department of any reputable college, university, or State normal school (unless the high school department of the Howell Union School could be called a "college"); that he did not hold a State teacher's certificate; that he had not held a first grade certificate within two years next preceding the time of his election; that he had not held the office of county commissioner under Act No. 147, Laws of 1891; and that there were more than 50 schools in said county subject to the supervision of the county commissioner at the time.

From these facts the court concluded as a matter of law:

1. That said special first grade certificate was not authorized by law and was void.
2. That the Legislature did not intend to include union or graded schools within the term, "reputable college."
3. That the acquisition of a first grade certificate after election does not come within the meaning of the plain language of the statute, which expressly says that such certificate, to be available, must have been had at some period within two years next preceding the election.
4. That, under the terms of the statute, the respondent is not eligible to the office.
5. That, being ineligible by express terms of law, there is no room for the court to consider questions of public policy or public good.

Section 4 of article 13 of the constitution leaves the matter of the government of the primary schools of the State to the Legislature, by providing that it shall establish a system whereby schools shall be kept, without charge for tuition, at least three months in each year, in every school district in the State. The office of county commissioner of schools is not one of the offices enumerated in the constitution; but, under the general power of the Legislature conferred by the constitution, undoubtedly that body has the right, in arranging the school system, to make such regulations for the government thereof as its wisdom shall dictate. The Act of 1891 provides for the election of a county commissioner of schools by the board of supervisors of each county.

Section 3 of that Act provides that: "No person shall be eligible to the office of county commissioner of schools who shall not be a graduate in the literary department

of some reputable college, university, or State normal school, or hold a State teachers' certificate, or who shall not have held a first grade certificate within two years next preceding the time of his or her election or shall have held the office of county commissioner under this act."

The Legislature, having the power under the constitution to provide for a county commissioner of schools, had the right to fix and determine the qualifications of the incumbent of the office within reasonable limits; and it cannot be said that the qualifications required by the Act are unreasonable. Our primary school system is the pride of the State; and the legislative intent, as shown by the Act, was to keep up the standard of teachers to be employed therein, by requiring certain educational qualifications in the persons whose duty it is to examine the teachers to be employed and determine their fitness for the work intrusted to them. It is contended by council that respondent did possess the qualifications required by the Act, in that;

1. He was a graduate of the Howell high school.

2. He held a special first grade certificate from the board of examiners of Washtenaw county; and there was also issued to him a first grade certificate by the board of examiners of Washtenaw county, dated August 7, 1891, and also one from the board of examiners of Macomb county, March 3, 1892.

3. He was the secretary of the board of school examiners of Livingston county at the time of his election.

We think that he has not shown the necessary qualifications to hold the office required by the Act.

1. His graduation from the Howell high school does not confer upon him what the Act requires. It is not a "college," within the meaning of the Act. That term must be taken in its popular sense and well understood meaning. High schools are now established in all the principal cities and larger villages of the State, and had become well known as such before the passage of the Act in question; and certainly the Legislature never intended by the language employed to class such schools as colleges.

2. The certificates held by him as a teacher did not confer upon him the necessary qualifications to hold the office. The special first grade certificate, and the only one held by him at the time of his election, was void, for the reason that first grade certificates can only be granted on the first Thursday of March and of August of each year, under the provisions of Act No. 266, Laws of 1887, and Act No. 147, Laws of 1891. It was said by this court in Lee vs. School Dist. 71, Mich. 361: "These special first grade certificates are to bridge over the time between the commencement of a school and the next meeting of the board of examiners, and not for the purpose of making persons eligible to office." Under these acts a special certificate is granted, and valid only to teach in a specified district; and first grade certificates can be granted only at the regular public examinations provided for in these Acts, that is on the first Thursday of March and of August of each year.

3. The second certificate issued to the respondent, it appears by the finding of the court, was not upon any examination taken by him. He was not present at any examination. The board agreed to issue a certificate and did issue it, as bearing date of August 7, 1891; but it was not delivered to the respondent until four weeks afterwards, and after his election, and after he had entered upon the duties of his office. We think this certificate is also void. It is the intent of these Acts that any person desirous of teaching in our public schools, shall present himself or herself before the board of examiners on one of the days specified in the Acts, there to submit to an examination and, if found to be qualified, then to receive a certificate in the proper grade. The Legislature has provided this method for ascertaining the qualifications of teachers, and a certificate issued to one who has not taken an examination at all and whose qualifications are not ascertained upon an examination, is not such a certificate as the law provides for.

4. The third certificate was issued March 3, 1892, upon a public examination had at the time the law provides for the meeting of the board, and is in due form of law, and it is conceded that it is now held by the respondent, unrevoked; but the statute provides that no person shall be eligible to the office "who shall not have held a first grade certificate within two years next preceding the time of his or her election." It is contended by respondent that there being no person who claims the office, and his eligibility being now established, he should not be ousted. The limitation, however, upon the right to hold the office is plainly fixed by this statute. He must have held a first grade certificate at some period of time within the two years next preceding his election. This he did not have.

5. The fact that he had been secretary of the board of examiners under the act of 1887 did not make him eligible. It is not the intent of the Legislature to make one holding that position eligible to the office. The provision of the Act, "or shall

have held the office of county commissioner under this Act," clearly implies one who in the future may be a candidate for the office under the Act and have held that office under the Act at some time prior thereto. We think the court below was right, under the circumstances, in entering judgment of ouster. The judgment must be affirmed, with costs.

The other Justices concurred.

V. AUTHORITY TO PURCHASE APPARATUS.

The Western Publishing House vs. School District No. 1, of the Township of Locke.

1. A purchase of "Yaggy's Anatomical Study," an atlas containing 40 or 50 pages of plates and printed matter prepared as an aid in teaching anatomy and physiology, with the special purpose of showing the effect of alchol and nicotine upon the human system, can only be made so as to charge a school district when authorized by a vote of the qualified electors thereof, lawfully assembled; citing How. Stat. § 5052, subds. 7, 12; Id. § 5073, subd. 6; Gibson vs. School Dist., 36 Mich., 404.

2. While the atlas in question may be convenient, it is not absolutely necessary in order that effect may be given to the purpose of 3 How. Stat. § 5067, which requires that instruction shall be given in physiology and hygiene, with special reference to the nature of alcohol and narcotics and their effect upon the human system, by the aid of text books in the case of pupils who are able to read, and as thoroughly as in other studies pursued in the same school, said text books to be first approved by the State Board of Education and selected by the school board. Error to Ingham. (Person, J.) Submitted on briefs December 2, 1892. Decided December 22, 1892.

Assumpsit. Plaintiff brings error. Affirmed.

The facts are stated in the opinion.

Franklin S. Porter for appellant.

Luke S. Montague for defendant.

Durand, J. On or about April 24, 1888, George R. Avery, who was the assessor of the defendant school district, had some talk with plaintiff's agent about the purchase of Yaggy's Anatomical Study, which is an atlas containing 40 or 50 pages of plates and printed matter prepared for teaching anatomy and physiology, with the special purpose of showing the effect of alcohol and nicotine upon the human system. Thereupon the plaintiff's agent applied to Oscar F. Perry, who was the director, to sell the study to the district. A contract for the sale to the district was then made and signed by Oscar F. Perry, upon which the plaintiff's agent took the contract, or order, to George R. Avery, the assessor, who also signed it. He then took it to George Hunt, the moderator of the district, for the purpose of obtaining his signature, but he refused to sign it.

It is admitted that neither previous to nor at the time of signing the contract were the district board, or any two of them, together, nor did they act together as such in reference to the contract, but that they acted separately in signing it. After it was signed, the plaintiff, in pursuance of it, sent the study referred to to Mr. Perry, at Perry, Shiawassee county, with an order to be filled out or signed, providing for the payment of $35. The order reads as follows:

Locke, Michigan, April 24, 1888.

Assessor of School District No. 1, Township of Locke, County of Ingham:

"Pay to Western Publishing House, or bearer, on the first day of January, 1889, at Exchange Bank in Williamston, Michigan, the sum of $35 out of any moneys in your hands belonging to said district in incidental fund, for one copy of Yaggy's Anatomical Study, with interest at seven per cent per annum.

"By order of the board."

When the study and the order were received, Mr. Perry signed the order as director and sent it by his daughter to Mr. Hunt, the moderator, who also signed it, and returned it to Mr. Perry, who forwarded it to the plaintiff and took the study to his own house. Mr. Perry, the director, and Mr. Hunt, the moderator, were not together when the last order was signed; and the school board never met together as a board to act upon the question of the purchase of the study. At the annual meeting of the school district in September, 1888, Mr. Perry took the study to the meeting for the voters to examine; and he made a report of what had been done in reference to its pur-

chase. The district refused to make the purchase of the study or to recognize what had already been done in that direction, and the district has ever since that time refused to adopt the report of its officers or to accept the study. The study has never been used in the school and has been in the possession of Mr. Perry, in his house, ever since it was received; and there has been no vote of the district adopting it as a text book. After the annual school meeting in September, 1888, Mr. Perry wrote the plaintiff that the district refused to accept the study, and offered to pay express charges both ways if plaintiff would take it back. This offer the plaintiff refused, and when the order became due, demand for payment was made and refused; and this suit was then brought to recover upon it.

The circuit judge found as a conclusion of law, that the contract or purchase was without authority and that the order was not a valid claim against the district, and gave a judgment in favor of the defendant.

We think the circuit judge was right. The director is expressly prohibited from making purchases of this character, by subdivision 6 of section 5073, How. Stat., which provides that:

"Nothing herein contained shall be construed to authorize the director to purchase charts or any apparatus to be used in the school room, without a vote of the district authorizing the same."

Neither can he gain any power by joining with the other members of the district board in making such purchase, for the board itself is not authorized to do so. Board of Education vs. Common Council, 80 Mich., 548. Purchases of this character can only be made when authorized by a vote of the district, and the power to make them is given to the qualfied voters of the school district, when lawfully assembled, and to no one else, as is seen by a reference to subdivision 6, of section 5073, referred to, and subdivisions 7 and 12 of section 5052, How. Stat. See also, Gibson vs. School Dist., 36 Mich. 404.

Section 5067, How. Stat., as amended by Act number 165, Laws of 1887, does not change the general rule as above stated. While these charts may be convenient, they are not absolutely necessary in order that effect may be given to the purposes of the law. Yeggy vs. District Tp., 80 Iowa, 121 (45 N. W. Rep. 553).

The circumstances of this case show plainly the wisdom of the provisions of the statute which confide the power of making purchases of this character to the qualified voters of the school district. They undoubtedly save the people from many useless and extravagant purchases urged by interested parties upon school district officers when met (as they were in this case) singly, and who, in the hurry of private business, are often induced to sign contracts to which they would not consent if given an opportunity to have the subject fairly discussed at a regular meeting of the district board, or at a meeting of the qualified voters of the district.

The judgment is affirmed with costs.

The other Justices concurred.

REPORTS

FROM

STATE AND INCORPORATED

EDUCATIONAL INSTITUTIONS.

I. STATE:
1. UNIVERSITY OF MICHIGAN.
2. STATE NORMAL SCHOOL.
3. AGRICULTURAL COLLEGE.
4. MINING SCHOOOL.

II. INCORPORATED:
1. AKELEY INSTITUTE.
2. ADRIAN COLLEGE.
3. ALBION COLLEGE.
4. ALMA COLLEGE.
5. BATTLE CREEK COLLEGE.
6. BENZONIA COLLEGE.
7. CLEARY'S BUSINESS COLLEGE.
8. DETROIT COLLEGE.
9. DETROIT HOME AND DAY SCHOOL.
10. EVELYN INSTITUTE.
11. GERMAN AMERICAN ACADEMY.
12. HILLSDALE COLLEGE.
13. HOLLAND THEOLOGICAL SEMINARY.
14. HOPE COLLEGE.
15. KALAMAZOO COLLEGE.
16. MICHIGAN FEMALE SEMINARY.
17. MICHIGAN MILITARY ACADEMY.
18. OLIVET COLLEGE.
19. RAISIN VALLEY SEMINARY.
20. ST. MARY'S ACADEMY.
21. SPRING ARBOR SEMINARY.
22. WESTERN MICHIGAN COLLEGE.

UNIVERSITY OF MICHIGAN.

REPORT OF PRESIDENT.

To the Honorable Board of Regents:

I have the honor to present to you my annual report for the year ending September 30, 1893.

The following is a list of appointments made and of resignations accepted:

In October, 1892, F. R. Mechem was appointed Tappan Professor of Law; and Assistant Professor J. E. Reighard, Professor of Animal Morphology.

In November, 1892, George F. Metzler, Ph. D., Instructor in Mathematics; E. W. Dow, A. B., Instructor in History, each for one year; Carl W. Belser, Ph. D., (reappointed for three years) Assistant Professor of Oriental Languages; Judge Samuel Maxwell, Lecturer on Code Pleading (one year); William G. Hammond, LL. D., Lecturer on History of Common Law (one year).

In December, 1892, Assistant Professor T. C. Trueblood was made Professor of Elocution and Oratory, from January 1, 1893.

In February, 1893, the resignations of Assistant Professor Belser, Ph. D., Arthur G. Hall, B. S., Instructor in Mathematics, and Moritz Levi, A. B., Instructor in French, were accepted; and Pomeroy Ladue, B. S., was appointed Instructor in Mathematics, and Eugene Leser, Ph. D., Instructor in French, each for the second semester.

The President was authorized to fill the vacancy in the chair of Oriental Languages. He afterwards appointed W. Muss-Arnolt, Ph. D., Acting Assistant Professor for the second semester.

In May, F. C. Newcombe, B. S., was appointed Acting Assistant Professor of Botany for the next year, to take the work of Professor Spalding, who was granted permission to spend the coming year in Europe. Professor McLaughlin was also granted leave of absence for a year, to pursue studies in Europe. The resignation of Professor John J. Abel, Ph. D., was accepted.

In June the following appointments were made:

IN THE LAW DEPARTMENT,

(for one year).

Andrew C. McLaughlin, A. B., LL. B., Advanced Course in Constitutional Law and Constitutional History.

Thomas M. Cooley, LL. D., Lecturer on Interstate Commerce.
Henry B. Brown, LL. D., Lecturer on Admiralty.
Victor C. Vaughan, Ph. D., M. D., Lecturer on Toxicology in its Legal Relations.
Marshall D. Ewell, LL. D., Lecturer on Medical Jurisprudence.
Samuel Maxwell, Lecturer on Code Pleading.
James L. High, LL. D., Lecturer on Injunctions and Receivers.
Melville M. Bigelow, Ph. D., Lecturer on Insurance.
John B. Clayberg, LL. B., Lecturer on Mining Law.
Richard Hudson, A. M., Lecturer on Comparative Constitutional Law.
George H. Lothrop, Ph. B., Lecturer on Patent Law.
Henry C. Adams, Ph. D., Lecturer on the Railroad Problem.
William G. Hammond, LL. D., Lecturer on History of Common Law.
Elias Finley Johnson, B. S., LL. M., Instructor in Law.

IN BOTH THE MEDICAL AND LITERARY DEPARTMENTS.

Warren P. Lombard, A. B., M. D., permanent appointment as Professor of Physiology and Histology.
Frederick G. Novy, Sc. D., M. D., Junior Professor of Hygiene and Physiological Chemistry, to act under the direction of Professor Vaughan.

IN THE LITERARY DEPARTMENT.

John C. Rolfe, Ph. D, Junior Professor of Latin.
George Hempl, Ph. D., Junior Professor of English.
Edward D. Campbell, B. S., Junior Professor of Metallurgy and Metallurgical Chemistry (he to provide his own assistant).
Each of the above three persons is required to work under the direction of the Senior Professor in his branch (Professor Campbell under Professor Prescott).
Fred N. Scott, Ph. D., reappointed Assistant Professor of Rhetoric for three years.
Frank N. Cole, Ph. D., reappointed Assistant Professor of Mathematics for three years.
George H. Mead, A. B., appointed Assistant Professor of Philosophy for three years.
Joseph L. Markley, Ph. D., reappointed Instructor in Mathematics for three years.
Moritz Levi, A. B., reappointed Instructor in French for three years.
Fred Morley, C. E., reappointed Instructor in Descriptive Geometry and Drawing for three years.
Elmer A. Lyman, A. B., reappointed Instructor in Mathematics for three years.
The following reappointments and new appointments were made for one year.
Dr. James A. Craig, appointed Professor of Oriental Languages.
Herman V. Ames, Ph. D., Acting Assistant Professor of American History.
Hiram A. Sober, A. B., Instructor in Latin.
George O. Higley, B. S., Instructor in General Chemistry.
Alfred H. Lloyd, A. M., Instructor in Philosophy.
Jonathan A. C. Hildner, A. M., Instructor in German.

Ernst Voss, Instructor in German.
David M. Lichty, M. S., Instructor in General Chemistry.
John O. Reed, Ph. M., Instructor in Physics.
Benjamin P. Bourland, A. M., Instructor in French.
John R. Effinger, Ph. B., Instructor in French.
Lorenzo N. Johnson, A. M., Instructor in Botany.
Herbert F. DeCou, A. M., Instructor in Greek.
Henry B. Ward, Ph. D., Instructor in Morphology.
Ernst H. Mensel, A. M., Instructor in German.
Lawrence McLouth, A. B., Instructor in German.
Earle W. Dow, A. B., Instructor in History.
Pomeroy Ladue, B. S., Instructor in Mathematics.
Eugene Lesser, Ph. D., Instructor in French.
George E. Dawson, A. B., Instructor in English.
Moses Gomberg, M. S., Instructor in Organic Chemistry.
Clarence G. Wrentmore, B. S., Instructor in Descriptive Geometry and Drawing.
Eric Doolittle, B. S., Instructor in Astronomy.
Karl E. Guthe, Ph D., Instructor in Physics.
Tobias Diekhoff, A. B., Instructor in German.
George A. Miller, A. M., Instructor in Mathematics.
Marshall S. Brown, A. M., Instructor in History.
The following assistants were reappointed for one year:
Charles H. Cooley, A. B., in Political Economy.
Frank H. Dixon, Ph. B., in Political Economy.
Alice L. Hunt, in Drawing.
William F. Edwards, B. S., Instructor and Accountant in the Chemical Laboratory.

DEPARTMENT OF MEDICINE AND SURGERY.

(*for one year*).

William F. Breakey, M. D., Lecturer on Dermatology.
Martin L. Belser, M. D., Instructor in Pathology.
Simon M. Yutzy, M. D., Instructor in Osteology, Assistant Demonstrator of Anatomy.

SCHOOL OF PHARMACY.

Julius O. Schlotterbeck, B. S., Instructor in Pharmacognosy and Botany (for one year).

THE GENERAL LIBRARY.

Fred P. Jordan, A. B., Assistant in charge of catalogue.
Byron A. Finney, A. B., Assistant in charge of circulation.
Anderson H. Hopkins, Ph. B., General Assistant.

The following appointment was made at the August meeting:

Arthur R. Cushny, A. M., M. D., Professor of Materia Medica and Therapeutics, for one year, in the Department of Medicine and Surgery.

Dr. J. C. Wood resigned the Professorship of the Diseases of Women and Children, in the Homœopathic Medical College.

At the meeting on September 1, Charles Gatchell, M. D., resigned the chair of Theory and Practice in the Homœopathic Medical College.

The following appointments were made:

S. D. Townley, M. S., Instructor in Astronomy, in place of Eric Doolittle, appointed in June, who declined.

D. C. Worcester, A. B., Instructor in Animal Morphology, in place of Dr. H. B. Ward, resigned.

H. S. Jennings, B. S., Assistant in Vertebrate Morphology.

C. G. Darling, M. D., Clinical Lecturer on Oral Pathology in the Dental College.

At the meeting on September 20, the following appointments were made:

F. M. Taylor, Ph. D., Assistant Professor, was made Junior Professor of Political Economy and Finance.

Maurice P. Hunt, M. D., Professor of Gynecology and Obstetrics in the Homeopathic Medical College.

E. R. Eggleston, M. D., Professor of Theory and Practice in the same department.

Louis P. Hall, D. D. S., Instructor in Dental Anatomy and Operative Dentistry.

J. B. Johnston, Ph. B., Assistant in Invertebrate Morphology.

Max Winkler, Ph. D., Instructor in German.

Degrees were conferred as follows, during the year:

DEGREES ON EXAMINATION.

Bachelor of Letters	29
Bachelor of Science (in Biology)	8
Bachelor of Science (in Chemistry)	5
Bachelor of Science (in Electrical Engineering)	13
Bachelor of Science (in Mining Engineering)	2
Bachelor of Science (in Mechanical Engineering)	13
Bachelor of Science (in Civil Engineering)	15
Bachelor of Science	15
Bachelor of Philosophy	53
Bachelor of Arts	73
Master of Letters	2
Civil Engineer	1
Master of Science	4
Master of Philosophy	5
Master of Arts	12
Doctor of Philosophy	1
Doctor of Medicine (Department of Medicine and Surgery)	49
Bachelor of Laws	330
Master of Laws	18
Pharmaceutical Chemist	20
Master of Pharmacy	1
Doctor of Medicine (Homœopathic Medical College)	20
Doctor of Dental Surgery	53
	742

HONORARY DEGREES.

Master of Science	1
Master of Arts	2
	745

Last year the number of degrees conferred, 699, was the largest recorded in the history of any American University. But that number is now exceeded by 46. This is more noteworthy because, owing to the transition

in Medical Schools from a three years' course to a four years' course, the number graduating in the Department of Medicine and Surgery was only about half as large as usual. The coming year the graduating class in that Department will be about as large as it was in former years. If the increase in the number of graduates were occasioned by a lowering of the standard of graduation, it would afford no ground for satisfaction. But it has come in the face of an advance in the requirements of graduation, and is, therefore, gratifying. The attendance has been as follows:

SUMMARY OF STUDENTS.

DEPARTMENT OF LITERATURE, SCIENCE, AND THE ARTS.

Holder of the Elisha Jones Classical Fellowship	1	
Resident Graduates	65	
Candidates for an Advanced Degree, enrolled in other Departments	6	
Graduates Studying *in Absentia*	44	
Undergraduates:		
Candidates for a Degree	1131	
Students not Candidates for a Degree	244	
Total		1491

DEPARTMENT OF MEDICINE AND SURGERY.

Resident Graduates	3	
Fourth Year Students	46	
Third Year Students	76	
Second Year Students	91	
First Year Students	128	
Total		344

DEPARTMENT OF LAW.

Resident Graduates	24	
Seniors	319	
Juniors	270	
Special Students	12	
Students enrolled in the Department of Literature, Science, and the Arts	14	
Total		639

SCHOOL OF PHARMACY.

Resident Graduates	2	
Second Year Students	33	
First Year Students	47	82

HOMŒOPATHIC MEDICAL COLLEGE.

Resident Graduates	1	
Fourth Year Students	21	
Third Year Students	13	
Second Year Students	10	
First Year Students	18	63

COLLEGE OF DENTAL SURGERY.

Resident Graduates	7	
Seniors	52	
Juniors	76	
Freshmen	54	189
		2808
Deduct for names counted more than once		30
Total		2778

The number of students was larger than in the year preceding by 86. By far the largest increase was in the Literary Department, 161. The School of Pharmacy and the Dental College had each one more student than in the preceding year, while the attendance fell off a little in each of the other Professional Schools. We regard the growth of the Literary Department as the surest proof of the prosperity of the University. There was a gratifying increase in the attendance of most of the stronger colleges and universities of the country last year. But though this growth of the western institutions might have been expected to reduce our numbers, such did not prove to be the fact. The students from other states than Michigan were even more than in 1891–2. But the aggregate increase of 86 was chiefly due to the increased number from Michigan, which was 79 greater than in the previous year. For the first time in many years Michigan furnished a fraction of one per cent. more than one-half of all our students. This evinced a gratifying appreciation by the State of the advantages the University offers to her children, and also of the value of a higher education.

Forty-four of our states and territories were represented in our students, Illinois sending 310, Ohio 217, Indiana 114, Iowa 71, Pennsylvania 72, New York 67, Missouri 55, Kansas 38, Wisconsin 38, Nebraska 33, Minnesota 30, Utah 29, California 27, Massachusetts 24, Colorado 23, Kentucky 21, Oregon 15, Washington 15, Tennessee 12, Maryland 9, Montana 9, Texas 9, New Hampshire 8. Every New England State was represented. Students were present from the following foreign states and provinces: Ontario (29), Japan, England, Germany, China, New Brunswick, Hawaiian Islands, Italy, Barbadoes, Bermuda, Bulgaria, Costa Rica, Manitoba, Porto Rico, Quebec, Scotland, South Africa. It is a fact of special interest that two women from China are in attendance on the Medical Department. They are under the care of American missionaries, who are here with them. So far as I know they are, with a single exception, the first Chinese women who have ever left their native land for the purpose of study. The importance of such an experiment can hardly be overestimated.

The attendance of women was as follows:

Department of Literature, Science, and the Arts	514
Department of Medicine and Surgery	71
Department of Law	2
School of Pharmacy	6
Homœopathic Medical College	14
College of Dental Surgery	7
Total	614

Compared with the previous year, there was an increased attendance of women; in the aggregate, 83, or 15.6 per cent; in the Literary department, 77, or 17.6 per cent; in the Medical Department, 12, or 20 per cent; in the Pharmacy Department of 2. There was a decrease in the Law Department of 1, in the Homœopathic College of 6, in the Dental College of 1 The women now constitute nearly 37 per cent of the attendance in the Literary Department. Last year they formed 33 per cent. Whether one observes the high schools or the colleges of the country, one cannot but be struck with the increase in the number of women, compared with that of the men, who are obtaining an academic or collegiate education. In many of the Michigan high schools the graduating classes are made up almost wholly of girls. The boys are drawn off to wage-earning pursuits

before they have completed the school course. It is no longer an exceptional thing for the girl in the family to go to college. She looks forward, if her father's means permit the anticipation, from the high school to the college, as she looked forward from the grammar school to the high school. So it has come to pass that the number of young women, not only in the colleges which are intended for their sex alone, but also in the colleges and universities which receive students of both sexes, is rapidly increasing. It is indeed becoming a question whether a generation hence there will be as many college-trained men as college-trained women in this country. The educational, intellectual, and social consequences of this forward movement in the training of women we may not be able to foresee fully, but that they must be very important no one can doubt. I cannot but think that they will be very beneficient. Just now, however, the stimulus to obtain collegiate education needs to be given to the boys more than to the girls, at least in the west.

One cannot but be struck with the rapidly increasing favor with which the policy of opening universities and colleges to women is received in Europe as well as in America. The success of women in all branches of university study, and the wise use which they are making of their attainments in life, are fast overcoming the objections long held to offering them the opportunities for higher education, while the experience of the institutions which are educating men and women together is rapidly conquering the theoretical objections to co-education of the sexes. The benefits of this rational policy of opening to women the advantages of education long offered to men, are not to be measured by the blessings thus conferred personally upon the women who enjoy those advantages, but account must be taken of the vast improvement thus secured to the schools in which these women are teaching. A new inspiration has been carried into the seminaries, high schools, and colleges, in which women, graduates of good colleges, are now giving instruction. Few agencies have been more potent in lifting the grade of secondary education in the west in the last few years than the thorough collegiate training of the women who have been charged with the duty of teaching in the secondary schools.

GYMNASIUM.

The subscriptions for the Waterman Gymnasium, though insufficient for the completion of the building, have enabled us to put up the walls of the main structure, to roof it, and to lay the principal floors. We need about $18,000 to finish the building which is now enclosed, and we should have about $20,000 more to complete the wing for the women. The severity of the financial crisis in the country has rendered it useless to attempt to secure these sums during the months just past. We trust that, when business prosperity returns, we may receive the needed help. It seems due to the benefactors who have already contributed that we should push the building to completion at the earliest date possible.

UNIVERSITY EXTENSION.

Some of our professors have continued what is known as the University Extension work during the past winter, at Detroit, Grand Rapids, East Saginaw, Toledo, and Cadillac. Professor Demmon gave courses on

English Literature, Professor Adams on Problems of Transportation, Porfessor Vaughan on Hygiene and Sanitation, Professor Carhart on Electricity, and Professor Scott on Art. Classes of good size were organized and work was successfully accomplished. It is still too early to say whether the popular interest in this work is to grow or to decline. But it is already very clear that the draught which the lecturing makes on the Professors, when added to their regular work, is heavy, and if it is thought to be the duty of the University to provide much instruction of this kind as a part of its regular work, then we shall be obliged to appoint, as some universities have appointed, men to give most of their time and strength to lecturing to Extension classes. If the means are available, something can be said for doing so. But I am not convinced that, in our circumstances, we are yet called to make special appointment of Extension lecturers. We may, however, give the subject further consideration.

LITERARY DEPARTMENT.

In my last report I called attention to the importance of giving more attention to the work of graduate students in the Literary Department. The Faculty of that Department had then been for a year carefully considering how we could increase the efficiency of our instruction of the graduates. They decided to commit the direction of the work to an Administrative Council, composed of the senior professors in the various branches taught. That body has devoted much labor and thought to the best mode of conducting the graduate work, and it is believed that, during the year, considerable improvement has been made. More careful supervision of the students has been made practicable, and certain important principles in respect to graduate study and the conditions of attaining Master's and Doctor's degrees have been agreed upon.

It has been decided to discontinue giving degrees for study *in absentia*. The object sought in offering Master's degrees to graduates who could not come here to study, has been accomplished in much smaller measure than was expected. It was believed that it would stimulate teachers especially to continue advanced work while engaged in their schools. Though to a certain extent this proved to be a result, yet it has been found that the duties of teachers in the high schools are so exacting that prolonged and sequent study of the grade required for the attainment of a degree is practicable in fewer cases than we had supposed. Of all of our graduates who have made the attempt *in absentia* to win the Master's degree, only about 15 per cent have succeeded in accomplishing it. The contrast between the work of most of these candidates and that of graduates in residence was very marked. Therefore, while we regard it as possible for some to deserve the second degree by studies pursued *in absentia*, we have reluctantly come to the conclusion that, in the interests of sound learning, it is wise to ask all candidates for it to reside here during their term of study. It is believed that nearly every one who has the strength of purpose needed to complete his studies while engaged in teaching, can find a way to return here for a year.

The candidates for a Doctor's degree have always been required to reside here for at least a year. They will now be required to reside here at least two years, and are given especially to understand that more time than that may be necessary. They are henceforth to have a reading knowledge of two modern languages when they are received as candidates. Much stress

will be laid on the preparation of an acceptable dissertation, which must be a positive contribution to scholarship or to scientific knowledge. In thus establishing a high standard of work for the attainment of the Doctorate, we are acting in harmony with the better American universities, which are aiming to give significance and value to that degree.

FELLOWSHIP.

It is certainly one of the functions of a university like this to furnish the higher training which our graduate school is attempting to provide. It must be understood that it is costly to provide it. Much of the time of our most experienced professors must be given to a comparatively few students. Special means of illustration are often required. Especially are books needed. The Faculty are very grateful that an unusually generous appropriation has been made by the board this year for the purchase of books. It will enable us to fill many bad gaps in our library. If we can attract and teach a large body of gifted and aspiring graduate students, their presence will have a strong lifting and inspiring influence on the undergraduates, and their achievements in various spheres of intellectual activity after they leave us, will be of immense service to the University. Perhaps nothing would benefit the graduate school more just now than the establishment of fellowships in it, such as several of the stronger American universities now have. Friends of the University who wish to aid it by gifts could do nothing more helpful than to establish such fellowships, yielding, say, five hundred dollars a year each. It is matter of congratulation that, although we have only one such fellowship, we have been able to hold so large a number of graduates as we have had in recent years.

ENGINEERING COURSES.

The Literary Faculty have decided with your approbation to ask in 1895 and thereafter, for certain preparation in French or German or Latin of the students who are to enter on engineering courses. The requirements for admission to those courses omitted all foreign languages, mainly because, in our section of the country for many years a considerable number of men of mature years who had grown up in offices of engineers without much opportunity for training in languages, came here to prepare themselves for engineering work. But under the stimulus given in recent years to engineering study, especially to the preparation for mechanical and for electrical engineering, by far the larger number of matriculants in these courses are young men prepared in our high schools, where the languages are well taught. A good knowledge of French and German is so helpful to the accomplished engineer of our time that it is wise to encourage the student to get a good reading knowledge of these tongues early in his course.

REQUIREMENTS FOR ADMISSION.

The literary Faculty have been much engaged during the year in the consideration of requirements for admission and for graduation. There is a wide-spread belief, which is probably well founded, that in this country an unnecessary amount of time is consumed in carrying the student from his primary studies to graduation from college. Many of our best educa-

tional experts are convinced that a better adjustment and distribution of studies in the preparatory schools are possible, and are seeking improvement in the present scheme of work. It is thought by some of our professors that too many hours are required for graduation in some of our courses. While the Faculty are not yet prepared to make specific recommendations to you on these subjects, it is proper that you should know that, with a vigilant regard for the interests of the University and for the utmost efficiency of our system of secondary and higher education, they are carefully studying the problems which are now engaging the attention of our best guides in educational policy.

BIBLICAL LITERATURE.

The increasing interest in the study of the Oriental Languages has seemed to justify the appointment of a professor of those tongues. The new interest throughout the country in Biblical literature and in the studies which serve to illustrate it, must have struck every one. Courses of lectures on these subjects have attracted large assemblies. Our Student's Christian Association has had a large voluntary attendance on its Biblical Institutes. It is natural, therefore, that a new interest in Hebrew, Assyrian and Semitic studies generally, should have manifested itself in colleges and universities. It is not improbable that the existence of the various guilds which churches in this city have established, may make a Professorship of Oriental Languages especially useful here. One communion represented here is already making arrangements to give a certain amount of theological instruction to its candidates for the ministry who may matriculate in the University and pursue such linguistic and philosophical studies as they desire. We cannot have a theological department. But if the guilds or other societies assemble theological students here for instruction, we may, with propriety and with satisfaction, receive such students to our classes.

MEDICAL DEPARTMENT.

The extension of the medical course to four years and the establishment of a requirement for admission substantially like that for admission to the scientific course in American colleges have proved wise. These measures have not caused the diminution in attendance which might have been feared, while they have brought us a class of students better prepared for medical study than we used to receive. It was a gratifying fact that of the class which might have been graduated in three years, the large number of 44 decided to remain and complete the four years' course. The number of new students admitted was 128, a large class for us. These are proofs that the profession and the students are quite ready for the steps which we have taken to raise the standard of medical education. Indeed for years we have taken no forward step which has not been justified by the results.

Our instruction in medicine is every year taking on more completely a genuinely scientific form. The laboratories furnish a larger and larger proportion of the teaching. The special advanced or "practical" courses established here last year before they had been introduced in any other medical school, have proved of the greatest service and have attracted much attention. The representatives of European medical schools who have visited us

this year on their way to the Columbian Exposition, have warmly commended these courses. One of the most distinguished French professors declared to us that there was nothing like them elsewhere, and that he should seek to have them established in France on his return home. The Hospital has been crowded to repletion with patients, and many have been quartered in private houses. The need of another ward is very pressing.

The institution of a preparatory course for medical studies in our Literary Department is proving helpful. By judicious elections students may pursue the sciences which they especially need as a preparation for the medical course, and thus shorten by a year the time required to complete both the work needed for the degree of Bachelor in the Literary Department and that needed for the degree of Doctor of Medicine. Students are now coming to us with the definite purpose of completing both courses on this plan.

The Homœopathic Medical College has been somewhat disturbed by differences of opinion in the Faculty concerning the policy to be pursued in conducting it. Some homœopathic physicians both in the State and out of it have been needlessly agitated by reports that the regents were likely to adopt statutes injurious to it. Professors Wood and Gatchell have resigned their chairs to accept appointments elsewhere. Professors Eggleston and Hunt have been appointed in their places. It is superfluous to say that the Board are seeking, as they have in years past sought, the best interests of the college. Unhappily differences and parties in the profession embarrass the Board in some degree in achieving such success for the college as they earnestly desire.

LAW DEPARTMENT.

The attendance upon the Law School, though slightly smaller than in the year preceding, was still larger than that in any other Law School in the country. The demands upon the students for work have been made more stringent than ever before. Plans have been matured for the establishment of a practice court, in which students shall be thoroughly trained in all the details of procedure, both by common law pleading and by code pleading.

SCHOOL OF PHARMACY.

This department continues to do its work with its usual thoroughness. The number of its students is somewhat falling off. This is due to three causes. First, a considerable number of Pharmacy Schools have been established, and the requirements for admission and for graduation in most of them are much lower than ours. Secondly, the temporary effect of the laws of Michigan for examinations in pharmacy is to send many students to the short-term schools. Thirdly, since in the Literary Department we have offered a four years' course leading to the degree of Bachelor of Science in Chemistry, a certain number of the more aspiring students, who would formerly have contented themselves with the Pharmacy Course, now prefer the longer and richer course.

DENTAL DEPARTMENT.

The elevation of the standard of admission to the Dental College and the extension of its course of instruction to three years, did not reduce the

total number of students, though the number in the Freshman class was smaller by 31 than it was in the previous year. But with our present accommodations and teaching force, it is perhaps well that the classes should not be much larger. The wisdom of raising the standard of admission and of graduation cannot be questioned.

UNIVERSITY RECORD.

We have continued the publication of the University Record. It contains much matter of interest to those who wish to understand the details of the work of the University and th aims of its Faculties. It is a valuable medium of communication with the schools. It is to be regretted that more of our alumni do not subscribe for it. We should be gratified if our friends would aid us in enlarging its circulation.

LIBRARY.

The following data are taken from the Librarian's report:

Number of volumes in all the libraries, Sept., 1893	85,781
" " unbound pamphlets " "	16,000
" " maps " "	800
Increase of volumes from Oct. 1, 1892, to Sept. 30, 1893	3,434
" " unbound pamphlets	70
" " maps	74
Recorded use of books in reading rooms for the above twelve months	131,139
Number of volumes drawn from the library by professors for the same time	4,800
	135,939

ART COLLECTION.

We have received and placed in our Art Gallery the final installment of the Randolph Rogers collection. It was the cast of the Columbus Doors of the Capitol at Washington. It was a happy coincidence that it arrived in this year of the Columbian Exposition. It is, perhaps, Roger's most original and successful work. The entire collection consists of ninety-six pieces and is the most valuable gift, except the Lewis collection of works of art, ever made by any person to this University. The new catalogue of the Art collection, prepared with great care by Professor D'Ooge, gives 205 titles in sculpture, 36 in architectural ornaments and models of antique remains, 175 in paintings, and 1789 in gems and medallions. The Lewis collection is not included in this enumeration.

COLUMBIAN EXHIBIT.

We sent as full a University exhibit to the Columbian Exposition at Chicago as the means at our disposal would enable us to make. We aimed to show as far as possible the methods and the results of our work in various departments. Of course, a large part of the best work of a university cannot be exhibited in a visible form. But we have reason to be satisfied with the attention which our exhibit received and with the commendations which it elicited. Our thanks are due to the Committee of the Faculties who had it in charge, and who bestowed so much labor on the

preparation of it.* Professor Steere with his assistants in the museum prepared a representative collection of the fauna of the state for the Michigan building. The specimens in our museum were supplemented by the purchase of such as we did not possess.

Representatives from the University took an important part in many of the congresses which were held in connection with the exposition and on the boards of judges.

SALARIES OF PROFESSORS.

In my last report I called attention to the desirableness and importance of making an addition to the salaries of our teachers. It was a source of gratification that the Board found themselves able during this year to increase somewhat the salaries of the professors. I am sure they regretted their inability to recognize in the same way the value of the services of the assistant professors and the instructors. It is to be hoped that at no distant day the condition of our treasury may make this possible. Otherwise we shall be in danger of losing some of our more promising young men, whom we much desire to retain. Our scale of compensation is below that of the institutions with which we are ranked.

STATE APPROPRIATION.

We desige to acknowledge with gratitude the generous consideration which we received at the hands of the Legislature last winter. With a hearty appreciation of our needs, they voted to raise the tax which is levied for our support from one-twentieth to one-sixth of a mill.† They require by the terms of the Act that we shall maintain all the present departments of the University, and that we shall not run in debt for buildings. On the present valuation of the taxable property of the State, this tax will yield $188,300 a year. It is, of course, understood that the appropriation of this sum will obviate the necessity of our going to the Legislature at each session for a number of specific appropriations; but it will enable us to make little if any enlargement of our work. Yet the bestowal of aid in this way gives us ground to hope that we can surely depend on it for an indefinite period in the future. It promises stability in the support of the institution so that we can with reasonable safety plan for the future. That is the reason why we are so much gratified at this action of the Legislature. We believe also that we can administer the affairs of the University more efficiently and economically, now that the board is allowed to divide its funds between different departments according to its own judgment.

But we may well warn both the public and our own professors against the error of supposing that because of the action of the Legislature the University is lifted above the need of practicing the most rigorous economy. Our total income still falls far short of that of Cornell University, Yale, Columbia, or Harvard, although our students outnumber all of these institutions except Harvard. In the years immediately before us we greatly need enlargement of some of our old buildings and the erection of some new ones. A great and prosperous university finds it well nigh impossible to prevent an increase in its annual outlay. The financial problems before

* The committee consisted of Professors Cooley, Prescott, Greene, Steere, and Kelsey.
† See Act in Appendix A.

us are, therefore, still far from simple, if the development of the institution is to go on.

It has seemed to me that now that the State has placed the University on a firm basis of support, we may reasonably appeal to men of wealth in Michigan, our alumni and other friends, to consider her claims upon them for general help. There are many things which she has not that would greatly enrich her life and multiply her beneficient power. Scholarships, fellowships, endowed professorships, a library fund, an art museum, hospital wards, a hospital for sick students—these are a few of the many legitimate objects on which benevolence could be bestowed with the assurance of perpetual returns of blessings. Most of the universities in the east and some of them in the west, including state universities, have been the recipients of large and helpful gifts from wealthy benefactors. May we not hope that this university, which with comparatively modest means has accomplished so much, will also be remembered by those who can enlarge her usefulness by needed endowments?

JAMES B. ANGELL.

STATE NORMAL SCHOOL.

REPORT OF THE PRINCIPAL FOR THE SCHOOL YEAR 1892-93.

To the State Board of Education:

GENTLEMEN—I herewith respectfully submit a report of the State Normal School for the school year 1892-93.

The year has been one of prosperity and progress for the institution which you have in especial charge. The statistics submitted below show a decrease in the number enrolled as compared with the enrollment of 1891-92. The causes of this decrease are shown subsequently in this report.

STATISTICS.

TABLE I.—*Summary of Enrollment for ten years, including pupils in the Training School.*

1883-84.		
Normal Department		475
Training School:		
Primary Grades	85	
Grammar Grades	73	158
Total, excluding transfers		633
1884-85.		
Normal Department		520
Training School:		
Primary Grades	124	
Grammar Grades	111	235
Total, excluding transfers		755
1885-86.		
Normal Department		628
Training School:		
Primary Grades	136	
Grammar Grades	106	242
Total, excluding transfers		870
1886-87.		
Normal Department		675
Training School:		
Primary Grades	135	
Grammar Grades	109	244
Total, excluding transfers		919

1887–88.

Normal Department		714
Training School:		
Primary Grades	143	
Grammar Grades	91	234
Total, excluding transfers		948

1888–89.

Normal Department		809
Training School:		
Kindergarten	31	
Primary Grades	145	
Grammar Grades	94	270
Total, excluding transfers		1,079

1889–90.

Normal Department		811
Training School:		
Kindergarten	48	
Primary Grades	138	
Grammar Grades	98	284
Total, excluding transfers		1,095

1890–91.

Normal Department		909
Training School:		
Kindergarten	61	
Primary Grades	187	
Grammar Grades	122	
	370	
Deduct transfers	49	321
Total enrollment		1,230

1891–92.

Normal Department		1,002
Training School:		
Kindergarten	61	
Primary Grades	165	
Grammar Grades	125	
	351	
Deduct transfers	35	316
Total enrollment		1,318

1892–3.

Normal Department		937
Training School:		
Kindergarten	47	
Primary Grades	179	
Grammar Grades	162	
	388	
Deduct Transfers	70	318
Total enrollment		1,255

TABLE II.—*Showing annual enrollment in the Normal School proper and the number graduated throughout the existence of the school, and also averages by decades.*

	Year.	Enrollment exclusive of Training School.	Average annual enrollment for each decade.	Number of Graduates.	Average annual number of graduates for each decade.
First Decade.	1854	236		3	
	1855	346		13	
	1856	284		12	
	1857	246		13	
	1858	376		12	
	1859	366		12	
	1860	427		13	
	1861	436		24	
	1862	407		12	
	1863	428	355	19	13.3
Second Decade.	1864	377		18	
	1865	268		20	
	1866	265		24	
	1867	268		18	
	1868	303		14	
	1869	362		19	
	1870	384		17	
	1871	350		7	
	1872	432		50	
	1873	411	342	40	22.7
Third Decade.	1874	364		55	
	1875	409		57	
	1876	449		74	
	1877	366		80	
	1878	338		95	
	1879	292		84	
	1880	298		56	
	1881	318		91	
	1882	330		81	
	1883	398	356	100	77.3
Fourth Decade.	1884	475		102	
	1885	519		94	
	1886	628		90	
	1887	675		100	
	1888	714		118	
	1889	803		104	
	1890	808		125	
	1891	909		145	
	1892	1002		183	
	1893	937	747	168	122.9

DECREASE IN ENROLLMENT.

The decrease of 67 in the present year's enrollment heretofore mentioned, is due in some degree to general financial stringency, but mainly to an unfortunate state of things in the large classes in the

NINTH GRADE.

In my report for last year there was a forecast of the difficulty and an earnest recommendation, the adoption of which would have gone far in

keeping up the attendance to its highest point. I beg leave to quote from my report for 1891–92, as follows:

"Since my last report a ninth grade, connecting the Training School with the Normal School proper, has been established. Many students from the district schools and from the smaller high schools are found deficient in their preparation. These receive preparatory training and instruction in this grade. This is a very valuable addition to our Training School, the design being to detail members of the senior class to do the work of instruction under thorough and careful supervision by the heads of the departments immediately concerned, thus securing excellent instruction for the pupils taught and advanced practice teaching for Normal students; yet everything depends upon the thoroughness of the supervision. During the past year this has been done with great fidelity and skill, but more help in the departments is imperatively needed in order that such supervision may fully meet the requirements of the case. The heads of departments lack time for the full and satisfactory performance of this work. The demands of the regular departmental work are too heavy to allow sufficient time to be devoted to this duty, which is second to none in importance in the Normal School. It must be remembered that many of the students found in the classes of this grade are men and women of mature years and of more or less experience in teaching. Their earlier advantages have been limited or poor, and they must have thorough review in some branches; but they are strong and ambitious and are entitled to the best of instruction. This can be assured only by a degree of thoroughness in the supervision of the work of pupil teachers that is hardly possible under present circumstances.

A similar plan of instruction for pupils in studies above the eighth grade was tried several years ago, and it resulted in failure and serious depletion of attendance on account of such inadequate supervision.

The present plan is open to the same danger, which can be successfully guarded against only by strengthening in this direction. The plan is a good one and full of promise for the professional reputation and usefulness of the Normal School, if sufficient means for carrying it out are provided. There is a prejudice against pupil teaching even in the lowest high school grades, which can be overcome speedily if the conditions are made favorable, but which will work serious harm if the work is to be continued under its present disadvantages. I believe that four additional assistants will be needed."

The foregoing extract expressed my judgment at the time the report was rendered. The experience of 1892–93 has fully justified the apprehensions therein expressed, though the falling off in enrollment has been considerably less than I expected.

I regard the addition to the teaching force as the most urgent present need of the school. The supervision of the ninth grade work is altogether inadequate, and the plan as at present operated threatens disaster to the school. I earnestly hope that this repetition of the suggestion will receive the attention which I am very sure it deserves and which the experience of the year now reported upon has shown to have value.

I will add that there are still other easily removable causes for the justifiable disaffection of many of our ninth grade pupils. The ninth grade course of study is in urgent need of revision. The requirements in English therein set forth are palpably disproportionate to those which have been found sufficient in other so-called common branches. Students

in arithmetic who fall somewhat below an established standard, are required to use ten weeks in review of the subject before entering upon ten weeks' teachers' review. Those still more deficient are assigned twenty weeks of preparatory work in classes. Those students who are found by examination to be somewhat, but not greatly, deficient in grammar, also take ten weeks of preparatory work. Those for whom ten weeks preparatory review seems to the examiner to be insufficient, are placed in the ninth grade classes; and this with few exceptions means sixty weeks of work preparatory to the ten weeks' teachers' review; viz., forty in English grammar and composition and twenty in English classics, under pupil teachers who, so long as the needed assistance spoken of above is withheld, are and must be inadequately supervised. That is to say, seventy weeks including the final teachers' review, are required in English grammar against thirty weeks in arithmetic and ten in geography. This requirement of seven-sixteenths of a solid school year's work in this subject, has been a most fruitful source of complaint and dissatisfaction. I think that the final twenty weeks of preparatory English should not be required. No doubt it has high value under other circumstances; but when this requirement is insisted upon with pupils well advanced in years, many of whom have taught the subject upon county certificates of competent knowledge, it is impracticable and costs far more than it yields. This year it has been necessary to classify students into the last twenty weeks, metaphorically speaking, at the point of the bayonet. The practice of so classifying them ought to be discontinued. This will leave the English department fifty weeks for its work in grammar, while thirty suffices in arithmetic and ten in geography. This should be enough even when allowance is made for a fact, which I have many times observed; viz., that long continued teaching of the unfruitful and factitious minutae of formal English grammar as presented in the text books, has a natural and perhaps unavoidable tendency to make teachers technical and to dispose them to insist upon details that waste time and energy, but amount to little in making sound and intelligent grammarians.

BUILDINGS AND GROUNDS.

At the request of your Committee on Buildings and Grounds I have already submitted extended notes on needed repairs and necessary improvements. I will therefore dismiss this subject with one more reference to my last report, in which will be found a recommendation that an appropriation be asked for, to put into operation a uniform and effective system of ventilation. I quote as follows:

"The erection of a large building by additions not foreseen or planned for from the beginning, is unfavorable to the securing of such a system; and the methods of providing for ventilation and its prime importance in a school were not so well understood while the older parts were in process of erection as they now are. This is, in my judgment, a pressing need." I wish to add to the foregoing that the plans of ventilation at present in use are miserably inefficient, and that safety to pupils and teachers demands that something be done to better them.

PHYSICAL TRAINING.

I desire to congratulate the school upon the happy outcome of our request for the means of physical culture, and wish in its behalf to expre

thanks for the interest taken by you, and for your energy in bringing this important matter to the attention of the Legislature; and to the Legislature for its wise and intelligent action securing a great and fully appreciated advantage to the Normal School and, through it, to the children and youth of our beloved commonwealth. The event marks a notable and honorable era in the history of free education in Michigan.

ACCOUNT OF STEWARDSHIP.

Since this is my final report after service as principal for a period of seven years, it is proper and in accordance with usage, that I render an account of my stewardship. Especially is this proper because the fact (of which I was made aware with marked kindness and courtesy) that you deemed it best to place the executive charge of the school in other hands, was the immediate cause of my declination of reappointment. I shall therefore refer, as briefly as possible, to the progress of the school during its fourth decade, of which this is the closing year, and shall also make occasional reference to the last seven years of this decade. They begin with the school year 1886–87 and cover exactly the years of my administration. In doing this I claim nothing for myself except the great pleasure that comes of the fact that it has been my good fortune to stand at the helm of the school during a very conspicuously prosperous seven years of its history; its first seven consecutive years of peace and noteworthy progress since its early days, were made illustrious by the name and the wise administration of Dr. A. S. Welch.

I invite attention to several points as follows:

1. That there has been a large increase in the facilities for successful school work since 1886.

The library has increased in the number of volumes nearly 70 per cent and in inventory value, 60 per cent.

The value of school apparatus, including musical instruments, has increased 83 per cent, and the value of furniture, 32 per cent.

The additions to school buildings, including $20,000 appropriated last winter but not yet used, amount to 84 per cent of their value in 1887.

2. The courses of study have been greatly strengthened and enlarged, thus securing to pupils the opportunity for larger growth in scholarship and for a more ample preparation for their future work, and enabling the school to prepare its students for any grade of responsibility in the public schools of Michigan, and offering to them the means of acquiring a considerable margin of scholarship between their own attainments and what the courses of study in the best high schools prescribe.

During the last seven years all the Normal three and four years' courses have been greatly strengthened, and all the advanced or six years' courses and the course for college graduates, have been established and put in successful operation. A comparifon of the calendar of 1885–86 with the register of 1893 will easily show the details of striking and very conspicuous progress along these lines. All the shorter courses for high school graduates have been established within three years.

During the last four years, especially, the professional tone of the school has been greatly developed. There have been offered added courses in advanced Psychology; in Comparisons of Educational systems; Advanced Practice Teaching; Professional Training in History and in Science; Methods in Ancient and in Modern Languages; and Kindegarten

Methods; aggregating 100 weeks of work. The professional spirit of teachers and notably of students has grown more and more vigorous and ardent.

3. The development of the Training School has fully kept pace with the best thought in this direction. The Kindergarten has been established and is now doing most excellent service in the promotion of the educational spirit. The Training School is now in reality and truth a school of observation and enlightened practice, as it was not even five years ago. With its corps of nine critic teachers, it is doing its full share in sustaining and increasing the reputation of the Normal School.

4. There now exist, between this school and the public schools of the State, relations far closer and more intimate and more advantageous to all concerned than were even thought in 1886. Towards this cementing of these natural and most desirable relations, the general policy of the school and especially the adoption of the one and two year courses for graduates of approved high schools, have strongly tended. The earliest reliable records of the number of high school graduates enrolled, are for the year 1888–89. In that year 78 entered. In 1892–93, 148 were enrolled; a gain in four years, of 91 per cent. All who are at all familiar with the history of the internal working of the school know that these relations are yearly growing closer and closer, to the great gain of the Normal School and of the public schools. This is also attested by the constantly increasing demand of the public schools for teachers trained here. It is safe to say that at no time in the history of education in Michigan has there been such a degree of unification in the public school system as now exists.

5. Public confidence in the school was never before nearly so pronounced and general. This is shown by many of the facts heretofore presented, especially in 4 above. It is shown also in the constantly increasing readiness with which the Legislature meets the biennially augmenting needs of this school for financial aid, often, as was the case this year, granting more than your honorable body thought it safe or expedient to ask for. The same unhoped-for liberality was shown two years ago, when the Legislature showed its willingness to purchase a large area of ground for recreation and outdoor exercise, though the State board had not deemed it wise to place the matter in its estimate of needed things. This year the added grant was for the means of physical culture. Our illustrious University, needing and richly deserving the same aid, pleaded in vain for it.

6. In the last decade, and notably during its later years, this school has won an acknowledged place in the very foremost rank of American Normal Schools. It can be fairly said that its reputation is national, and that it stands second to no institution of its kind in America. The ablest and most venerable and respected Normal School president on the continent, after a visit of several days and close inspection into its scope and its workings, has, during the present year, most willingly and sincerely admitted its high rank. Who, outside of Michigan, knew or cared much about the Michigan State Normal School during the second and third decades of its existence?

7. Physical training and culture is now, at last, in the way of receiving the attention and encouragement so justly its due. It has been struggling on under great difficulties for years. Evidence of interest in it began to show itself in the school less than five years ago, but it has already attained a sturdy growth. This interest, reaching out into the State, has

enlisted friends of the school in its behalf. A strong athletic association has for three years done much to awaken enthusiasm. This spirit has, I believe, been wisely directed. It had no enemies, but it has needed and has received protection from the folly of friends whose zeal was not according to knowledge. The matter is now upon a good foundation and, through favorable action on the part of the Legislature, brought about by the earnest effort of friends inside and outside the school, a complete plant for physical training is now in plain sight. The way is clear and open to my successor for the early securing of most valuable results.

8. Although there has been a very large increase in the number of students since 1886, I feel it safe to say that the high moral tone of the school has been fully maintained. I may say that this is also the unanimous opinion, recently expressed, of the Council of the Normal School. While a higher degree of order in movement and a more rigid internal discipline might, in my judgment, be maintained profitably and easily, if sympathy with strict order as a part of Normal School discipline were a feeling unanimous in the Faculty, I am sure the general moral tone of the school has been fully kept upon its highest plane. Indeed, in the matter of general conduct, I have noted with great satisfaction a manifest advance. Complaints of disorder at the postoffice have grown more infrequent as the years have moved on. For more than two years not one such complaint has come to me. I well remember how, in the earlier years of my administration, the Friday evening society meetings gave me much anxiety and many occasions for discipline of students. Also I remember when All Hallow E'en was made the occasion of disorderly conduct, noise, and humiliating fool-pranks of the destructive kind, and how the police officers found it necessary to be vigilant and to lock up each year one or more students in the central station. But since 1888 this spirit has gradually died out and has finally disappeared. We have, on the whole, a body of students more quiet and law-abiding than any other of equally large numbers within my knowledge.

The Students' Christian Association was never more active and useful. It has begun already to work upon a promising plan looking to the erection of a suitable home and place for its meetings and its business. In this connection it seems proper to note something that has to do with the future prosperity of the school. In maintaining the discipline suitable and necessary for a Normal School, my successor will find, as I have found, his chief obstacle in the lack of unanimous active sympathy to which I have alluded above, and in a tendency on the part of some teachers to promote the idea that a Normal School should consider and call itself a college. Students infected with this notion do not discriminate wisely. If they, many of them ninth and tenth grade students, are encouraged to consider themselves collegians, why should they not be expected to ape college tricks and manners and to duplicate college noise and disorder. This tendency on the part of some whose ambition outruns their judgment, to dignify themselves by assuming for the school a somewhat high sounding but altogether inappropriate name, is not only ridiculous but mischievous to a degree; and it makes proper Normal School discipline more difficult than it otherwise would be. A Normal School differs most essentially from a college. Its students come from schools of all kinds and conditions. Many of them have never seen a well ordered school. Their idea of proper discipline and order will come of their own experience in this school. It ought to set them an example of public

school order. It is the first requisite of a Normal School that it set such an example, and no school is truly a Normal School unless it does set a worthy example of order and discipline. My experience teaches me that the propagation of the college idea makes against such proper order and piles up difficulties in the way of the executive. I believe that the best interests of the Normal School demand that you, as the controlling board, set your faces seriously against this particularly injurious manifestation of ambitious folly.

9. Growth in public confidence as indicated by a phenomenal increase in attendance, is shown by a glance at tables I and II herewith presented. An analysis of table II discloses some interesting facts. The figures, representing the annual enrollment since the opening of the school, were prepared for the Columbian Exposition with laborious care by Professor Austin George.

a. The average annual enrollment for the second decade when compared with that of the first, shows a loss of 13, or nearly 4 per cent.

b. The average enrollment for the third decade shows a gain of about one-third of one per cent over that of the first, and of 14, or four and one-tenth per cent over the second decade.

c. The average enrollment for the fourth decade shows a gain of 391, or of nearly one hundred and ten per cent over the most prosperous previous decade, the third.

d. The average annual enrollment for the last seven years of the fourth decade is 835. This is fifty-four per cent greater than the same average for the first three years of said decade, and a gain of two hundred and thirty-four per cent over the average of the third decade.

e. The whole number of graduates since the opening of the school is 2,362. Of these 1,133 were graduated in the first three decades and 1,229 in the fourth decade; and of these last, 286 were graduated during the first three years of the fourth decade and 943 during the last seven years. The average for the first three years is 95, and for the last seven years 135. In other words the fourth decade produced fifty-two, and the last seven years of the fourth decade forty per cent of all graduates to date. In this connection it should be remembered that, through the recent strengthening of the courses, graduation means far more than it did in former decades where the two years' common school course was taken by a large proportion of the students graduated.

The following diagrams give a correct graphic showing of the main facts noticed in 9 above:

DIAGRAM A.—*Showing the comparative average annual enrollment, by decades, since the opening of the school in 1853, and also the comparative average annual enrollment for the first three and for the last seven years of the fourth decade. (Scale—one-sixteenth of an inch to ten names.)*

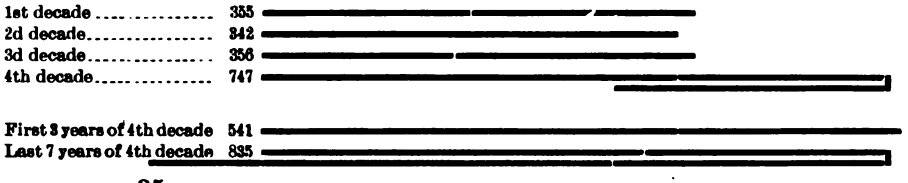
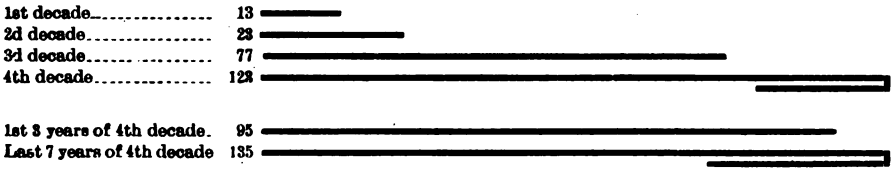


DIAGRAM B.—*Showing the average annual number of graduates, by decades, since the opening of the school, and also the average annual number of graduates for the first three and for the last seven years of the fourth decade. (Scale—one-thirty-second of an inch for each name.)*



A review of the facts given above will, I think, convince the friends of the Normal School that it has not suffered loss at my hands and that my administration has not been unprofitable to it. From this proposition I have abundant assurance that you, gentlemen, will not dissent; but I think it just that, through this report, friends of education throughout the State and elsewhere should be made acquainted with the facts.

You will find attached hereto, an appendix giving an account of the courses of study, a list of text books used, etc., etc., as required by law. (See Howell's Annotated Statutes, Section 413.)

And now, with earnest wishes for the continued prosperity of the Normal School, with greatful remembrance of many kindnesses and much encouragement received by me from your board from time to time during the seven years of my executive charge, and with real pain at parting from many loved and profoundly respected friends in the Faculty, I most respectfully submit the foregoing report.

J. M. B. SILL,
Principal.

Ypsilanti, June 30, 1893.

REPORT OF THE BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *Superintendent Public Instruction:*

DEAR SIR—The committee appointed to visit the State Normal School beg to present the following report:

We visited the Normal, March thirteenth and fourteenth, finding the instructors and students in their regular routine work.

The committee aimed to see the workings of the school in every department of instruction, and in this were materially assisted by the courtesy and kindness of principal and teachers.

Your committee was especially pleased with the spirit of courtesy and kindness apparent upon every hand. There seemed to be a bond of sympathy binding together teachers and students.

Your committee was also much pleased with the workings of the Kindergarten and Teachers' Training Department. Here the true kindergarten work, soul development, is pursued intelligently, thoroughly, and upon truly educative lines.

In the reading, geography, psychology, grammar, history, literature

classes, as well as in the higher studies, the broad lines of teaching run in true parallels with the needs of educational life and growth.

Your committee was much pleased with the earnest, progressive work going on in every department of the Normal.

It would seem to your committee that the great need of the State Normal school of the great educational State of Michigan, is a physical training department. Too long has our State sent her children to her Normal school without providing them with the necessary facilities for physical development. In this respect our Normal School is behind many other schools of the State. The arguments in favor of this department are so many and so obvious that your committee would be trespassing upon common intelligence to herein state them. Let our great Normal school, whose roots are watered by the life of the State, have a physical training department, that the teachers coming from its portals may go forth truly and healthfully educated.

D. E. McCLURE,
DAVID McNAIR,
Visitors.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The undersigned members of the committee appointed by you and directed to visit the State Normal School at Ypsilanti, respectfully report that they have performed that pleasurable duty and spent October 17 and 18 in that admirable institution, carefully examining into the methods of instruction, general character, and efficiency of the work being done in said institution.

Your committee was greatly pleased to note that Dr. R. G. Boone, who was but recently appointed to fill the responsible position of principal of the school, is putting much energy and enthusiasm into his management and is infusing a spirit of emulation that cannot be but helpful and uplifting to the educational interests not only of the State Normal, but all educational interests of Michigan.

We believe the whole work from kindergarten to calculus is being intelligently and energetically carried forward, and our people can justly point with pride to their State Normal School.

The gymnasium now being built is a magnificent testimonial of educational progress in our own beloved State and a necessary addition to the school essentials. When completed and in use, the sons and daughters of Michigan may with pardonable pride gaze upon the institution so well equipped, so ably managed, and so well attended, and exclaim "Behold the beauty and the strength of our State."

Respectfully,
D. E. McCLURE,
TOM J. G. BOLT.

STATE AGRICULTURAL COLLEGE.

REPORT OF THE PRESIDENT.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—In the absence of a report from ex-President O. Clute, I have the honor of submitting herewith the annual report for the State Agricultural College for the year ending June 30, 1893.

The Faculty for 1893 was constituted as follows:

FACULTY AND OTHER OFFICERS.

Oscar Clute, M. S., President.

Robert C. Kedzie, M. A., M. D., Professor of Chemistry, and Curator of the Chemical Laboratory.

Albert J. Cook, M. S., Professor of Zoölogy and Entomology, and Curator of the General Museum.

William J. Beal, M. S., Ph. D., Professor of Botany and Forestry, and Curator of the Botanical Museum.

E. A. A. Grange, V. S., Professor of Veterinary Science.

Henry G. Reynolds, M. S., Secretary.

Levi R. Taft, M. S., Professor of Horticulture and Landscape Gardening, and Superintendent of the Horticultural Department.

Howard Edwards, M. A., LL. D., Professor of English Literature and Modern Languages.

Lester P. Breckenridge, Ph. B., Professor of Mechanical Engineering and Director of the Mechanical Department.

Herman K. Vedder, C. E., Professor of Mathematics and Civil Engineering.

P. Mirick Harwood, B. S., Professor of Practical Agriculture, and Superintendent of the Farm.

Edson A. Lewis, 2d Lieutenant 18th Infantry, U. S. A., Professor of Military Science and Tactics.

Frank S. Kedzie, M. S., Adjunct Professor of Chemistry.

William S. Holdsworth, M. S., Assistant Professor of Drawing.

Phillip B. Woodworth, B. S., M. E., Assistant Professor of Physics.

Alvin B. Noble, B. Ph., Assistant Professor of English Literature and Modern Languages.

Edgar A. Burnett, B. S., Assistant Professor of Agriculture and Instructor in Animal Industry.

Fred W. McNair, B. S., Assistant Professor of Mathematics.

William H. Vandervort, B. S., M. E., Assistant Professor of Practical Mechanics.
Fred B. Mumford, B. S., Assistant Professor of Agriculture.
Warren Babcock, Jr., B. S., Instructor in Mathematics.
Gilbert H. Hicks, B. S., Instructor in Botany.
George A. Goodenough, B. S., Instructor in Mechanics.
Wilbur O. Hedrick, B. S., Instructor in English.
Alfred G. Gulley, M. S., Foreman of the Horticultural Department.
Albert R. Curtiss, Foreman of the Wood Shops.
E. A. Edgerton, Engineer.
Mrs. Linda E. Landon, Librarian.
Thomas Gunson, Foreman of the Greenhouse.
James N. McBride, B. L., Instructor in History and Political Economy.
Chace Newman, Clerk of the Mechanical Department.
Walter D. Grosbeck, B. S., Foreman of the Machine Shop.
Oscar C. Clute, Assistant Secretary.
R. C. Bradley, Assistant Secretary.
Ernst Wittstock, Foreman of the Farm.
Gager C. Davis, M. S., Instructor in Zoölogy.
Charles F. Wheeler, Instructor in Botany.
A. L. Wescott, B. M. E., Instructor in Mechanical Engineering.

The enrollment of students for 1892–93, was 355.
The number of students in the different departments was as follows:

	Agricultural.	Mechanical.	Special.	Ladies.	Total.
Post-Graduates	16	----------	13	6	35
Seniors	31	12	----------	6	53
Juniors	24	23	----------	----------	47
Sophomores	39	28	----------	2	69
Freshmen	55	56	----------	5	116
Specials	----------	1	29	6	36
Total	168	120	42	25	355

The instruction is largely given by lecturers and by laboratory work, with constant references to the library, hence greatly lessening the number of books to be purchased by the students. The courses of study pursued and the text books required were as follows:

COURSES OF INSTRUCTION.

AGRICULTURAL COURSE.

[Numerals denote the number of hours per week.]

FRESHMAN YEAR.

AUTUMN TERM.—*Algebra*, 5. *English History*—Gardiner's, 5. *English*—Maxwell's Grammar, 5. *Rhetoricals*, 2. *Drill*, 3.
SPRING TERM.—*Algebra*, 5. *Agriculture*—Lectures, 5. *Drawing*—Free-hand, 10. *Drill*, 3.
SUMMER TERM.—*Geometry*, 5. *Botany*—Gray's Lessons and Manual, 3. *Rhetoric*—Waddy, 5. *Physics*, 4. *Rhetoricals*, 2. *Drill*, 3.

SOPHOMORE YEAR.

AUTUMN TERM.—*Geometery*, 5. *Psychology*, 4, *Landscape Gardening*—Lectures, Long's Gardening, the first half term, 5. *Botany*—Lectures, last half term, 5. *Physics*, 4. *Rhetoricals*, 1. *Drill*, 3.

SPRING TERM.—*Botany*—Laboratory work, 9. *Rhetoric*—Genung's Practical, 5. *Agriculture*—Lectures, half term, 5. *Rhetoricals*, 1. *Drill*, 3.

SUMMER TERM.—*Elementary Chemistry*—Lectures, Boxam, 5. *Chemistry*—Laboratory practice, 2. *Trigonometry*, 3. *Surveying*—Hodgman's, 2. *Field Work*—in Surveying, one afternoon per week. *Rhetoricals*, 2. *Drill*, 3.

JUNIOR YEAR.

AUTUMN TERM.—*Anatomy*—Lectures, Martin, half term, 4, and Laboratory Practice, 2. *Organic Chemistry*—Lectures, 5. *Volumetric Analysis*, half term, 4 *Moral Philosophy*—Janet's Elem. of Morals, half term, 5. *American Literature*—Richardson's Primer and selected texts, half term, 5. *Shakespeare*—Rolfe, 1. *Essay. Public Oration. Drill*, 4½.

SPRING TERM.—*Analytical Chemistry*—Kedzie's Hand-Book, 10. *Horticulture*—Lectures, Thomas and Henderson, Laboratory, 5. *Human and Comparative Physiology*—Lectures, Martin, 5, and Laboratory Practice, 15, for two weeks. *Shakespeare*, 1. *Essay. Public Oration. Drill*. 3.

SUMMER TERM.—*Agriculture*—Lectures, 5. *Agricultural Chemistry*—Lectures, 5. *Entomology*—Lectures, Hyatt, Cook's Manual, 5, and Laboratory Practice, 2. *Shakespeare*, 1. *Essay* in English Literature. *Drill*, 3.

SENIOR YEAR.

In the Agricultural Course, Senior year, the studies have been arranged to follow each other somewhat in the order of dependence; and the student will select at the beginning of the year his *line* of study, rather than the individual study of any term. These lines are arranged as follows and are named by the accompanying number: [To be read horizontally.]

	Autumn Term.	Spring Term.	Summer Term.
I.	Botany.	Horticulture.	Agriculture.
II.	Physics.	Meteorology.	Chemistry.
III.	Zoölogy.	Geology.	Entomology.
IV.	Veterinary Science.	Veterinary Science.	Veterinary Science.
V.	Physics.	Civil Engineering.	Agricultural Engineering.
VI.	English Masterpieces.	Political Economy.	United States History.

As will be seen, then, there are six lines or courses of study offered. Of these the student is required to take three, and he may take a fourth by and with the consent of the Faculty. The presumption is that, when the student elects his courses or lines in the autumn, he intends to hold to those courses during the three terms of the year. If, however, at the beginning of any term there shall arise any just reason for a change from one course or line to another, and the student interested shall desire to make such change, he will submit his request, with reasons attached, to a standing committee of the Faculty, called the Committee on Courses. The decision as to the change will then rest with the committee.

Of all agricultural seniors there will be required, besides the three regular courses, one essay in English literature and one oration in the autumn term, one essay in political economy in the spring term, and one oration in the summer term, together with one day per week of class work on Milton. With these explanations, the tabulated statement of the Senior year will appear as follows:

[The Roman numerals indicate the course to which the studies belong; the Arabic numerals indicate the number of hours per week.]

AUTUMN TERM.—I. *Botany or Forestry*—Lectures or laboratory practice, 10. II. *Physics*—Atkinson's Ganot, laboratory practice. 10. III. *Zoölogy*—Lectures, Packard, 5, and laboratory practice first ten weeks, 3. IV. *Veterinary Science*—Lectures first ten weeks, 5, Dissection last two weeks, 10. V. Physics, as in course II. VI. English masterpieces, 5. *Critical essay* in English literature. *Oration. Drill*, 3.

SPRING TERM.—I. *Horticulture*—Lectures and laboratory practice, 5. II. *Meteorology*—Lectures, 5. III. *Geology*—Lectures, Le Conte, 5. IV. *Veterinary Science*—

Lectures and Clinical instruction, 5. V. *Civil Engineering*—Lectures, 5. VI. *Political Economy*, 5. *Essay* in Political Economy. *Essay* on assigned military subject. *Drill*, 3.

SUMMER TERM—I. *Agriculture*—Lectures, 5. II. *Chemistry* (*Quantitative Analysis*) —Laboratory practice, 10. III. *Entomology*, 5. IV. *Veterinary Science*—Lectures and Clinical instruction, 5. V. *Agricultural Engineering*, 5. VI. *United States History*—Johnston's American Politics, 5. *Milton*, 1. *Oration*. *Drill*, 3.

MECHANICAL ENGINEERING COURSE.

[Numerals denote the number of hours per week.]

FRESHMAN YEAR.

AUTUMN TERM.—Algebra, 5. Drawing, 8. English, 5. Rhetoricals, 2. Shop work, 10. Drill, 3.

SPRING TERM.—Algebra, 5. Geometry, 5. Free hand Drawing, 6. Elocution, 2. Physics, 4. Physical Laboratory, 2. Shop work, 8. Drill, 3.

SUMMER TERM.—Geometry, 5. Descriptive Geometry, 5. Rhetoric, 5. Physics, 4. Physical Laboratory, 2. Shop work, 10. Drill 3.

SOPHOMORE YEAR.

AUTUMN TERM.—Trigonometry, 5. Work shop methods, 2. Descriptive Geometry, 6. Rhetoricals, 1. Physics, 4. Physical Laboratory, 2. Shop work, 12. Drill, 3.

SPRING TERM.—Analytical Geometry, 5. Surveying, 2. Surveying (field work), 2. Drawing and Machine Design, 4. Rhetoric, 5. Shop work, 8. Rhetoricals, 1. Drill, 3.

SUMMER TERM.—Calculus, 5. Elements of Machine Design, 10. Steam Engine, 3. Shop work, 10. Rhetoricals, 2. Drill, 3.

JUNIOR YEAR.

AUTUMN TERM.—Calculus, 5. Machine Design, 6. German, 5. Chemistry, 5. Chemical Laboratory, 2. Shop work, 6. Oration. Military work, 4½.

SPRING TERM.—Mechanics of Engineering, 5. Steam Boilers, 1. German, 5. Chemistry, 3. Chemical Laboratory, 2. Machine Design, 6. Shop work, 8. Oration. Drill, 3.

SUMMER TERM.—Mechanics of Engineering, 5. Strength of Materials, 5. Testing Laboratory, 2½. German, 5. Shop work, 10. Drill, 3.

SENIOR YEAR.

AUTUMN TERM.—Graphical Statics, 3. Valve Gears, 2. Thermodynamics, 5. Steam Engine Design, 10. Shop work, 10. Oration. Drill, 3.

SPRING TERM.—Hydraulic or Electrical Engineering, 5. Kinematics, 5. Advanced Designing, 10. Steam Engine Laboratory, 6. Electrical or Hydraulic Laboratory, 4. Drill, 3.

SUMMER TERM.—Civil Engineering, 4. Field work, 2. Original Design, 6. Lectures on Engineering Practice, 2. English Masterpieces, 5. Thesis work, 10. Oration. Drill, 3.

SCIENTIFIC AGRICULTURE.

In harmony with the purpose of its founders, the college endeavors to impart a knowledge of the natural sciences and their application to the arts of life. Those sciences especially which relate to agriculture and kindred arts, such as chemistry, botany, horticulture, zoölogy, veterinary science, and physiology are studied with constant reference to their practical applications in industrial life. The instruction given in the lecture room is illustrated and enforced by the study of plants and animals, and the various studies and experiments of the farm and garden. Students are taught to distinguish clearly between those principles and settled rules of agriculture in accordance with which they may safely proceed, and those theories and practices which are either exploded and discredited or are as yet the proper objects of experiment and discussion only.

MANUAL LABOR.

The College affords to its students the benefits of daily manual labor. Most of the labor is paid for and lessens the expenses of the student. It is in part educational—varied for the illustration of the principles of science. The preservation of health and the cultivation of a taste for agricultural pursuits are two other important objects. Four years of study without labor, wholly removed from sympathy with the laboring world, during the period of life when habits and tastes are rapidly formed, will almost inevitably produce disinclination, if not inability, to perform the work and duties of the farm. To accomplish the objects of the institution, it is evident that the student must not, in acquiring a scientific education, lose either the ability or the disposition to labor on a farm. If the farmers, then, are to be educated, they must be educated on the farm itself; and it is due to this large class of our population that facilities for improvement, second to none other in the State, be afforded them.

It is believed that the two and one-half hours' work that every student is required to perform on the farm or in the garden, besides serving to render him familiar with the use of implements and the principles of agriculture, is sufficient also to preserve habits of manual labor and to foster a taste for agricultural pursuits. The daily labor of each one does not occupy him longer than is requisite for preserving health and a robust constitution.

SHOP PRACTICE.

The shop practice is of the nature of laboratory work, is without pay, and is chiefly incidental to the mechanical course.

A series of exercises is selected principally with reference to giving the student practical information in the use of machine tools. So far as possible these exercises consist of practice on articles intended for use, and are constructed under the immediate oversight of a skilled workman. The shops are run, as far as possible, the same as actual manufacturing institutions. The results attained by trial of such methods for sixteen years in similar institutions have shown conclusively that work in connection with instruction and parallel to it, gives the student more skill than can be obtained without such instruction in twice the time by shop work alone. Again, the shop work is of value as a practical illustration of the precepts taught in the class room.

A number of improvements were made on the farm, notably the completing of the road through it. A large amount of fence was built and fields underdrained. A new greenhouse was constructed which is in every way one of the most perfect buildings of its kind in the State.

Upon the solicitation of the Michigan World's Fair Commission, the college prepared a large part of the Michigan exhibit in the agricultural building. The college also furnished the wax fruit for the horticultural exhibit. The small amount of funds rendered it impossible to make as large a display in the college exhibit in the manufacturers' building as was desired, but the work of the students made a very creditable appearance. The work of the entomological department received many flattering commendations.

Respectfully yours,

LEWIS G. GORTON.

MICHIGAN MINING SCHOOL.

REPORT OF DIRECTOR.

To the Honorable, the Board of Control of the Michigan Mining School:

GENTLEMEN—The Director of the Michigan Mining School has the honor to submit to you the following report for the year 1891–1892, which will, in some respects, be brought down to date.

APPOINTMENTS AND REGULATIONS.

During the past year the following changes have been made in the officers of the school or in their relative positions.

Messrs. Kidwell, Sharpless, and Denton were advanced to the rank of full professors in their respective departments, commencing September 15, 1892.

Mr. Carroll L. Hoyt, M. E., a graduate of Cornell University, was appointed to the instructorship in Mechanical Engineering and Drawing, made vacant by the departure of Mr. Rowland.

A very serious loss to this institution was occasioned, last summer, by the resignation of Dr. Harry F. Keller, for personal and family reasons which necessitated his residence in the east. He had proved himself an excellent instructor, earnest, capable, and trustworthy, and possessed of good executive ability. To him is due much of the rapid advance the school has made in the past two years, and his departure from this institution is regretted by all.

Owing to the decision of the trustees of the University of Pennsylvania to give up the course in Mining Engineering in that institution, this school was fortunate enough to secure, through the kind offices of Dr. Keller, the services of Dr. George A Koenig as Professor of Chemistry. Dr. Koenig had had the general charge of the course in Mining Engineering in the University of Pennsylvania, and had had a long and varied experience both as a teacher and in practical work. Dr. Koenig is a graduate of the University of Heidelberg and of the mechanical engineering course in the Polytechnicum of Karlsrhue. He also studied in the University of Berlin and in the Mining School of Freiberg.

STUDENTS IN THE SCHOOL.

The Board has reason to congratulate itself on the increased attendance upon the school during the past year, as shown below. From this

summary it can easily be seen that Michigan furnishes by far the largest number of the students. In 1891–92, fifteen; 1892–93, twenty different countries and states were represented by pupils here, which shows a decided gain in reputation of the school abroad, when we remember that in 1889–90 but seven states had pupils here. Of these Wisconsin has always had most, as her people are greatly interested in Michigan's mines.

The average age of the students is quite high, being 21 to 22 years. This is an encouraging sign, as the work is of a high grade and requires the matured ability of a man rather than that of a boy.

SUMMARY 1892-1893.

April 3, 1893.

Graduate students	3
Class of 1893	14
Class of 1894	26
Class of 1895	38
Special students	11
Total	92

BY COUNTRIES AND STATES.

Alabama	1
Canada	1
Colorado	2
Cuba	1
England	2
Idaho	1
Illinois	2
Indiana	1
Michigan { Upper Peninsula 41 / Lower Peninsula 21 }	62
Minnesota	2
Mississippi	1
Missouri	1
Montana	1
New Brunswick	1
New Jersey	1
New York	1
Ohio	3
Oregon	1
Pennsylvania	1
Texas	1
Wisconsin	5
Total	92

AVERAGE AGE OF STUDENTS, 1892-1893.

April 3, 1893.

	Years.
Special Students	22
Class of 1895	21
Class of 1894	21
Class of 1893	23
Graduate Students	24
Average age of all Students	22

The number of students enrolled brings the school up to about its limit of capacity, as only ninety to one hundred students can be accommodated

in the present quarters, and these only with difficulty. The number of the pupils has been kept down by rigid work, dismissals, etc. At no time during the first eleven years of its existence did the University of Michigan have as many pupils as the Mining School now has, and even as late as 1869 the Agricultural College had fewer, although that institution had been established twelve years. The success of this school compared with others, has demonstrated the wisdom of its being located in a mining district, the excellent policy of its board of control, and shows that the practical nature of its course of instruction is approved by those that seek a mining engineering education.

Ninety-three schools have contributed students to this institution, and of these schools the Houghton high school has sent the largest number of any single school, 19; Lake Linden high school, 14; the Michigan Agricultural College, 11; the Hancock high school, 10; and the University of Michigan, 9.

By some the claim has been put forward that the Mining School would diminish the number of pupils from the upper peninsula of Michigan that would attend the State University; but such a view does not seem to be well founded, for the effect of the Mining School upon the upper peninsula has been to stimulate a more general interest in education here, so that the University had double the number of students from this region in 1891–92 that she had in 1885–86, the year before this institution was founded. Again, the State University now has six accredited schools in the upper peninsula that send pupils to her on their diplomas, while, when the Mining School was organized, there was not a single such accredited school in the entire upper peninsula.

GRADE OF INSTRUCTION.

The following facts will serve to show that the grade of instruction and discipline is not below that of other schools that are considered to be of a high grade.

First—Students coming from other mining engineering schools to this one find that, as a rule, one year in other schools will only count them for about one-half year here.

Second—Out of thirty-four men that, less than three years ago were in line to graduate this year, it is morally certain that not more than seven or nine will get through.

Third—Since September, 1890, there have been dismissed, suspended, requested to leave, or gotten rid of intentionally in some way, twenty-seven pupils, almost one-seventh of all the students that have ever been enrolled in the school from its commencement to the present time.

Fourth—In its required hours of work, its four terms a year, its short vacations, and its practical work, its present three years' course is the equivalent of the four years' course in many of the schools.

Unless the present Legislature makes adequate provision for the increase of students in the School, the number of the latter will have to be kept down, a result which it is hoped will be effected by the lengthening of the course and by the greater stringency in the requirements for admission, such as age, etc. Otherwise a selective process, more rigid than at present in force, will have to be adopted at the school, which will leave there only those most likely to profit by the course of instruction.

Experience has forced the Faculty to be more rigid in discipline with

each succeeding year, and to insist that every student in the School shall attend strictly to the work required of him and conduct himself in a proper manner, or else close his connection with the School. The rapid advance of the institution in numbers and the fact that no student has ever left it of his own motion to pursue a course in mining engineering elsewhere, until he had completed the course he had entered upon here, speaks strongly for the fact that the discipline and the course meet with the general approval of the students themselves.

For many reasons the Director would prefer to adopt the German university method, and allow every properly prepared student to enter and remain as long as he wishes, without any further restriction than that, when he desired to graduate, he should pass a thorough examination in all the studies required for a degree. Some day this plan can be adopted, but it is the unanimous opinion of the Faculty that, considering the average proficiency of the students now in the School and the training they received before entering it, considering also the present condition of education in this country, the time is not ripe for this step in the Mining School, although the director thinks that in some other engineering schools such a course could be adopted with advantage.

GRADUATES.

Every effort has been made to make the instruction thorough and practical, so that the students on graduation should be fitted for their future work. This has been done to some extent, as very many men now in positions of trust and responsibility in the Michigan mining regions are either graduates or else have nearly completed their course here. All graduates are engaged in engineering or in allied professional work or studies, except two who have been debarred on account of ill health. The number of graduates thus far is twenty-two, but beside these the school should be credited with a number of others who have almost completed their course, and who are engaged in mining and allied work. Of these there are three that have only to present an acceptable thesis to receive their degrees, and six that have only a little work to do before the degree can be given. There are also many others that have taken special courses to adapt them to the special work they now do and whose support is derived from the practice of the education they received in this institution.

Below is given a list of the graduates and their positions so far as now known; the effort is made to keep track of every man, to watch and take pride in his advance.

1888.

Name, Residence, and Occupation.

John Luther Harris, S. B., Quincy, Mich., Mining Engineer, Quincy Mine.

Edmund Joseph Longyear, S. B., Merritt, Minn., Superintendent of the J. M. Longyear explorations on the Mesabi Range.

Samuel Alexander Parnall, S. B., Ishpeming, Mich., Chief Mining Engineer, Cleveland and Iron Cliffs Mining Co.

William Edward Parnall, S. B., Ithaca, N. Y., Electrical Engineering, Cornell University.

William Joseph Reid, S. B., Boston, Mass.

James Benjamin Seager, S. B., Hancock, Mich., Civil and Mining Engineering, Lake Superior Redstone Co.

William John Uren, S. B., Hancock, Mich., Civil Engineer, Mineral Range and Hancock and Calumet Railroads, and County Surveyor, Houghton County.

1889.

Walter Wilfred Joseph Croze, S. B., Negaunee, Mich., Chief Mining Engineer, Jackson Iron Company.

Paul Farwell, S. B., Anaconda, Mont., Assistant Chemist, Anaconda Mining Company.

*Herman William Fesing, S. B., Everett, Washington, Civil and Mining Engineer.

*Jacob Haas, S. B., Everett, Wash., Civil and Mining Engineer.

John Hoatson, S. B., Butte City, Mont., Mining Captain, Silver Bow Mine.

Reginald Chapple Pryor, S. B., Houghton, Civil and Mining Engineer.

1890.

Joshua Daniel, S. B., Great Falls, Mont., Assayer, Boston and Montana Consolidated Copper and Silver Mining Company.

Frank Drake, S. B., Iron Mountain, Chief Mining Engineer, Chapin Mining Company.

Herman Wm. Fesing, S. B., E. M., Everett, Wash., Civil and Mining Engineer.

Jacob Haas, S. B , E. M., Everett, Wash., Civil and Mining Engineer.

William Adams Hodgson, S. B., Houghton.

Linton Beach Sutton, S. B., Palmer, Mining Engineer and Chemist, Volunteer Mine.

Arthur Albert Wakefield, S. B., Hurley, Wisconsin, Civil and Mining Engineer.

1891.

Otto Henry Bossert, E. M., Freiberg, Saxony, Mining Engineering, Bergakademie.

Theodore Dengler, E. M., Houghton, Mining Engineer, Atlantic, Mine.

Edward Fink, E. M., Milwaukee, Wis., Chemist and Metallurgist, Geo. W. Goetz & Company.

Nathan Oliver Lawton, S. B., Ironwood, Chief Mining Engineer, Penokee and Gogebic Development Company.

No pupils graduated in 1892, although several should have done so, as their course was entirely completed except the presentation of a satisfactory thesis.

The diminished number of graduates is not due to a decadence of the school, but to the fact that the class that entered in September, 1889, and that should have graduated in 1892, was very small because of the change in the course at the time of their entrance, the then unfurnished and unequipped state of the Mining School building, the increase in the

*See Graduates of 1890 for the Second Degree.

requirements for entrance, etc. Further, with the lengthening of the course, the amount of work and the difficulty of graduating were increased.

CHANGES IN THE COURSE OF INSTRUCTION AND REQUIREMENTS FOR ADMISSION.

In September, 1893, a number of changes will go into effect, the most important of which will be given below:

(*a*) The length of the course will be increased from three to four years, because it has been found that the present course is too difficult for the average student to cover in the specified time. This increase of time enables the same subjects to be given in a more elaborate and better form, as well as provides more fully for practical work, thus making the course better adapted to the needs of the mining engineer. The lengths respectively of the school year and of the terms will remain the same as now; so also will the number of hours that the students will be employed each day remain the same, except that, during the Freshman year, they will be reduced to six hours, owing to the amount of outside work that is required of the students that year. The degree of Bachelor of Science will be again introduced and conferred upon all that complete the first three years of the course. This is done because it has been found that there is an extended demand for a three years' course in mining engineering that will enable one to do most of the work that falls to the lot of the average engineer. This demand is apparently due to the fact that the circumstances of many young men require that the latter should engage in their life work at as early a date as possible, while others have not the ability to complete the higher work demanded of those studying for the degree of Mining Engineer. These have been deemed sufficient reasons for arranging the course of study in such a manner that a young man may graduate in three years, if desirable, and yet may have covered sufficient ground to enable him to do the average work of a mining engineer well; in fact, the student who has taken the first three years in the Mining School has in reality done as much pertaining to his profession as is done in most courses of mining engineering, in the allotted four years, even if he has not done more.

The fourth year added to the course contains the higher professional studies and leads to the degree of Mining Engineer for those who have completed it and presented a satisfactory thesis. It is thought that this arrangement will remove many of the practical difficulties the school has been obliged to contend with in its course of instruction, and meet the needs of students better than the present course of three years.

(*b*) As a result of the past experience of the Mining School it has been thought advisable not to admit into the regular course anyone under twenty years of age, unless he shall have completed a regular course in some good high school or academy, while for special students the age has been raised to nineteen years. It has further been specified that, for the regular course, no student will be allowed to enter with any other conditions than astronomy and book-keeping; and also that all special students shall take sufficient work to occupy their time.

(*c*) The course of instruction would be greatly improved if it could offer various electives in at least the third and fourth years, to enable the students to specialize to a greater extent than is done at present in the regular course. This the school can not do at this time, as the present

work taxes the time and strength of the Faculty to the utmost, and no electives could well be afforded except by increasing the teaching force in the lines of the higher and more advanced work.

NEEDS OF THE MINING SCHOOL.

The chief wants of the school in the line of additional teaching force are in the direction of the cheaper grades of work; *i. e.*, assistants or instructors to help out the professors in their increased amount of work due to the larger number of pupils and the greater length of the course. In addition to the assistants now employed, one is needed in chemistry, one in physics, and one in the practical work in mining and mine surveying.

At the present time Professor Haynes, in addition to his duties as Professor of Mathematics and Physics, performs those of secretary of the Faculty. This is too much for any one man to attend to in a proper manner. The remedy, if we consider the constantly increasing number of pupils, would appear to be reached by making him professor of mathematics only, and dividing the Freshman class into two divisions for their mathematical recitations, thereby insuring better work. This, with work in the physical laboratory in the spring term, would occupy all his time and enable steps to be taken to put the Department of Physics in accord with the other practical work of the School. The instructor of physics in the Mining School ought to be some one who has had a thorough engineering training and thoroughly understands and appreciates those parts of physics that bear upon, and are of use, in the other studies of the course.

The present secretary of the Faculty cannot give the personal attention to the records, so as to see that the regulations are carried out in each case where conditions are to be made up or various rules are to be enforced, matters that should always be promptly brought before the Faculty unless the rules are to fall into contempt. Hence the secretaryship of the Faculty should be given into the hands of the clerk, or a general secretary of the School, and the Department of Physics, partly at least, placed in the charge of another instructor.

As the present clerk and librarian closes his connection with the School this year, an opportunity is offered to readjust the duties of this position and unite them with others so as to make the effective work for the School very much greater, without any material increase in the expenses. The present clerk has done his work well and efficiently, and if he remained his duties could be so adjusted that the ends sought should be attained.

The one great weakness at present in the School is in the work that centers about the treasurer, purchasing agent, clerk, librarian, requisitions, etc. The difficulties here have arisen on acount of the business of the Mining School growing far more rapidly than was expected, and much faster than the provisions for taking care of it have grown. At the time the treasurer was appointed, the business was small and could easily be handled; but, with the rapid growth of that official's private business and the great increase of that in the School, the work in the clerk's, treasurer's, and purchasing agent's departments has been in a deplorable condition. This has been going on for over two years, with repeated remonstrances on the Director's part, with promises and repeated promises made that it would be remedied, which have not yet been carried out, until the Director feels that he would be culpable unless he brought this directly to the

attention of the board, as the financial management of the School is not at all under the Director's control.

In making the statements that he does, the Director does not wish to be considered as reflecting upon the clerk, treasurer, and purchasing agent, as he considers them honest and capable officials; but that the methods, arrangements, times of attending to payment of bills, etc., are not such as the present importance to the School of the prompt and rapid handling of its business demands.

The chief complaints made are the delays in the payment of bills, and the adjustment of accounts, and delay in orders.

It is common to have bills run three, six, and twelve months or longer, after they are due and after they have been properly avouched for by the Director for payment. In order to save the funds of the School, many of its purchases are made at reduced rates, on condition of prompt payment, conditions in the fulfillment of which so much difficulty has been found that the credit of the school has been seriously impaired, and it is now cut off from purchasing at some of the best houses, while it appears the discounts given have been materially curtailed. This state of affairs leads to the sending of repeated drafts on the School, drafts on the Director, repeated dunning letters to him, and even threatened suits, although he has nothing whatever to do with the payment of any bills for the School. In order to try to remedy this state of affairs the Director has ordered the clerk to freely give his time to the treasurer, although the former official was greatly needed at the School; and he has thus been unable to attend to his necessary duties on account of from half to two-thirds of his time being taken up in attending to accounts, requisitions, bills, etc. Very much of the time of the Director and of the instructors is taken up in attending to dunning letters and to other business that does not properly belong to them, and this seriously interferes with their attention to the duties that properly devolve upon them, and causes the School to suffer thereby.

The time taken from the various officers of the School, the derangement of its business, its increased cost on its purchases, and the delays in its work produced by neglect of sending orders at the proper time, the Director estimates as causing a direct loss to the School of between one and two thousand dollars each year.

The condition of affairs relating to the general duties of the purchasing agent, and the general method of making purchases and obtaining requisitions are hardly more satisfactory than the previously mentioned subjects. The purchasing agent at present claims (and accepted the position on that claim only) that he should be looked upon simply as a clerk without any responsibility in the matter beyond sending out the orders, after proper requisitions have been put into his hands by the school officers. The agent certainly should look carefully into all questions of purchases, assume a certain amount of official responsibility for them, and see that they are made with proper restrictions in the best and cheapest market. Care of this kind would result in sufficient saving for the School to nearly, if not entirely, pay his salary. Further, the purchasing agent ought to be some one attached wholly to the School, and not dependent at all for his livelihood on local patronage, but only upon the question of how well and faithfully he does his duty by the School, and how valuable and efficient an officer he can become.

The present method of getting out requisitions is cumbersome, wastes valuable time and serves no useful purpose, but allows everyone to escape

from direct responsibility. The method was perhaps good enough in the earlier days of the School when the business was small; but as it is now, when the business is large and constantly increasing, and the members of the executive committee widely scattered and frequently absent, it leads to most vexatious delays, in endeavoring to get access to the members of the executive committee, who are busy men and burdened with other and far more pressing cares of an entirely different nature from those pertaining to the School.

The system adopted in the State University of selecting a few officers, whose offices are contiguous and who have a personal and direct knowledge of the needs of the institution, and making them directly responsible to the board for the requisitions and purchases, would be an improvement upon the system now in force here.

(*e*) The Director in the discharge of his duties has endeavored to ascertain in what way he could in the future do the School the most good, and finds that it is apparently in the way of giving more instruction, rather than in giving more time to the minor duties of his office. In response to this conviction he desires to give more and better instruction to the pupils, although he has made many improvements in that direction in the past year. In order to accomplish this better in the future he needs relief from certain portions of the work he now does; *i. e.*, the detailed preparation of the catalogues which he has heretofore done, the preparation of statistics. various articles, etc., demanded for the Legislature, for his reports, and for various other purposes.

The Director does not wish to escape from attending to the general direction of his work, but thinks that, when he has laid out the ground, he ought to have assistance of sufficient intelligence so that the details can be properly attended to by another and leave him to give his time to work that others cannot do, and which is really of more advantage to the institution. He considers that his employment in doing the work which much cheaper help can do, as soon as the needs are pointed out, is not economical for the institution.

(*f*) The remedies for the various evils, the Director thinks, lie in the following steps: To unite the salaries of the treasurer, purchasing agent, clerk, and librarian, and appoint one or two competent persons who shall have their offices in the school building, as is customary and where they should be. One at least of these parties, should have a good knowledge of school work, and literary and business ability, and should serve as secretary of the School and Faculty, be charged with the records of the School, see to it that the cases of all delinquent or conditioned students are brought before the Faculty, and attend to various duties that would properly devolve upon him. One competent man, if given good clerical help, could attend to all the duties here enumerated, if the business were consolidated and the present onerous method of obtaining requisitions changed to the more rapid and convenient system in vogue at the State University.

Experience shows that for the subordinate positions better results are obtained, on the whole, by employing in a school the graduates of that school, than by engaging the inexperienced graduates of other institutions. As a rule, the latter approach their work with the feeling that the school from which they graduated is the only one which properly does its work, and rarely do they realize or take into consideration the different conditions or situation of the school to which they are called.

Hardly ever do they show, at first, any ability to understand their changed surroundings and endeavor to accomplish that for which they are employed, but rather think that their duty consists in endeavoring to make their present situation conform to the peculiar conditions of their *alma mater*. In time they learn what they should, but the experiment of teaching them is a costly one for the institution that has to depend upon such assistance.

By taking the recent graduates of any school for assistants in that institution, then this feeling toward their mother institution renders them very valuable, as they have been trained in the desired methods and work, which training generally has to be given to the graduates of any other school during the time they are serving as assistants.

Some kind of a partial or entire endowment is greatly needed for the Mining School, to remove it from its entire dependence upon legislative aid, and also from the peculiar situation it finds itself in every two years on January 1, without a single dollar to pay its running expenses, but must depend upon its faith or hope of what a Legislature not then convened will do.

The highest standard never will and never can be obtained in a school situated so as to be at the entire mercy of the political winds.

A productive endowment of one million dollars would enable it to do its legitimate work as a mining school, provide its necessary buildings and equipment and in time, if wisely managed, stand in the van for thorough, high, and hard work.

The Director again calls attention to the need of a gymnasium, etc., for the use of the students. They need it not only for their physical but also for their moral health. Where mental work is so severe as it is at the Mining School, relaxation of some kind becomes absolutely necessary, or the mind or health will break. If pure and healthful relaxation is provided, then much is gained; for if no other place can be found, the student will surely seek the bar-room, saloon, and gambling hall. In no way can so much be gained for the right, it seems to the Director, as in provision made for enobling, healthful, and attractive recreation for the young student.

APPROPRIATIONS.

On account of the increase in the number of students and of the lengthening of the course of instruction, it has been found necessary that an additional building should be erected upon the grounds belonging to the Mining School. This building it is proposed to use for the machine shops, testing and electrical laboratories, the mining engineering laboratory, the drawing room, and for the boilers, engines, and fuel.

In the present building there are but two recitation rooms large enough to accommodate the present entering class, and no room large enough to have all the students assemble in for any purpose whatsoever. Part of the laboratories also are too small to accommodate classes of the size that the school now has. Every available foot of room is occupied, and the limit of expansion of the number of students is nearly reached, unless further accommodations can be given.

A metallurgical laboratory is very much needed, as stated in former reports; but it has been decided, on account of more pressing demands, to

leave this to subsequent years. I would, however, earnestly commend to your attention the report of the Professor of Metallurgy.

The amount of money needed for the engineering building will be $30,000, with $12,500 to cover the equipment, expenses of moving, and for repairs and alterations needed in the present building.

A very pressing need has been found to be a residence for the chief executive officer on the school grounds, as it is impossible to find any building suitable for that purpose nearer than a mile from the grounds. There is no institution in the country of standing, no mine or business enterprise of prominence, no church that does not provide something for its chief executive officer. It is impossible for any one to obtain the comforts of home, retain his health, or do his work as he should, with such a constant pressure of care and work as the Director has, when a boarding house is all that can be obtained in the vicinity of the school at the present time. This prevents his attending to many of the duties that naturally devolve upon him, and seriously interferes with his work and health.

On account of the greatly increased number of students that take the work in the physical laboratory, an increase in its equipment is essential, if the work is to be properly done, and the sum of $4,000 is asked for this.

The estimated current expenses of the Physical and Mathematical Departments are estimated at $1,000 for the two years, or the same as in past years, although the number of students has greatly increased.

In order to keep up the library to any useful point, the valuable periodicals need to be bound and the important new works added as issued. There is no attempt made to make the library anything except the special technical one that the needs of the institution demand. For these purposes and to keep up the reading room, the smallest sum that can be got along with is $5,000 for the two years, although that is less than the expenditures of previous years and much more is needed.

In the Chemical Department additional permanent equipment to the amount of $500 is required, while the running expenses for supplies, repairs of balances, etc., demand some $3,450, or an amount less than the estimates for two years ago.

In the ore dressing work or stamp mill, additional apparatus, lecture specimens, and drawings are asked for to the amount of $1,200. This is for permanent equipment, while for the two years $2,400 will be needed for the current expenses for fuel, ores, freight on the same, mercury and other chemicals, and for repairs and additions to the mill. This is an increase due to the increased amount of work now done in that department, as the estimate includes the running expenses for the metallurgy.

In the Metallurgical Department the sum of $600 is now needed for lecture specimens to be added to the permanent equipment.

In assaying the current expenses are estimated at $800 for the two years to supply the necessary fuel, ores, crucible reagents, repairs to furnaces, etc., or a lower estimate than formerly.

The photographic laboratory needs additional permanent equipment to the amount of $400 and $500 for the two years for current expenses. This laboratory has become essential to the work of the school in supplying the illustrations, diagrams, etc., that are needed in the lectures, particularly those given in the Departments of Metallurgy, Assaying, Ore Dressing and Mining, and therefore needs an appropriation larger than before.

Drawing, mechanical, and electrical engineering, need for running expenses at least $1,200 for the next two years.

The Department of Mining Engineering needs $75 for additional permanent equipment, and $1,280 for its operating expenses during the two years.

In petrography additional permanent equipment to the amount of $380 is needed, while for running expenses $120 are required for the two years.

The mineralogical laboratory asks for but $175 for the two years, a sum very much less than previously required.

For the insurance, especially if the new building is erected, at least $3,500 should be obtained for the next two years, as neither the State nor the board of control can afford to allow the property of the State to remain uninsured. There is already collected in the buildings of the present institution, with the buildings themselves, property amounting to $160,000. A fire-proof safe is also very greatly needed to preserve our records and other important and valuable property in case of fire.

The estimate for freight, drayage, catalogue, postage, printing, etc., is $2,000, an amount much less than we previously asked for. The care of the grounds and the water supply it has been found necessary to increase. $1,000 are asked for for the next two years.

In order to supply unforeseen contingencies and also to provide for numerous subsidiaries which cannot be estimated, the sum of $5,000 for the two years is asked. For the general contingent expenses and to meet unexpected demands upon the school, such a fund is always allowed every institution, as no estimate can cover everything or can always provide for the contingencies of two years.

The estimate for the fuel and lights has been increased by $300 on account of the necessary additional heat and light, if the new building is erected.

The present position of the boilers is not only a menace to the property of the State, which, as previously stated, amounts to some $160,000, that can readily be destroyed by fire, but it is also a menace to the lives of every teacher and student in the building, as long as the boilers remain there. Every effort is made to guard against explosion or fire, but the dangers are such that they cannot be provided against in all cases. The assay laboratory is also another serious danger, especially with the present necessity of using the laboratory as a carpenter shop during the winter season. This greatly increases the danger of fire. It is desirable to have the fire risk reduced to a minimum, and if the boilers should explode, that they should be in a position to do no harm excepting to their own shed, and not to the other buildings of the School and to the lives of its students and employés.

The salaries for the present officers remain on the same scale at present without any increase, with the exception of some small changes in the wages of the minor or subordinate officers, who are entitled through their services to some additional compensation and who are unwilling to remain without it.

Some additional assistance is asked in order to accommodate the increased number of students and the increased business of the School. This assistance, however, is intended to be in the form of laboratory instructors and assistants, etc., and is only asked because it is absolutely needed, owing to the increase in the number of students.

For the salaries, then, for the two years the sum of $46,060 is asked.

As soon as practicable, the salaries of the professors ought to be raised, as they are lower here according to the expenses and to absence of almost

everything that makes a teacher's life endurable, except hard work. This is one reason why the Director has labored so hard to see that each one should have in his department the means of doing his work well, for if this were denied, there would be nothing left to bind any teacher to his situation. It is the good men that, as a rule, are driven away by small salaries and uncongenial surroundings. Already one professor has announced his intention to leave; and, unless the warnings given in the report of the Director for 1890, concerning the relations of the board, Director, and professors, are heeded better in the future than in the past, serious trouble for the School is liable to ensue, as nothing will destroy all the interest of a man or drive him away so surely, as constant and unwarranted interference in his legitimate work.

The following quotation taken from one of the leading engineering journals in the United States, gives some ideas that are appropriate to the conditions in this institution:

"Technical education is the most expensive kind of school training. Not only must the instruction be mostly imparted by specialists, who command (or ought to command) high salaries, but the plant required is very expensive and the material consumed considerable. It is for this reason that so many of the schools purporting to give courses of instruction in engineering, fail utterly to attain to respectable standing as technical schools.

"The schools are finding great and increasing difficulty in keeping such men as they have, and it is almost impossible to find suitable new ones to replace those who drop out. The only remedy is higher salaries. A board of trustees, however, dislikes to pay a professor of engineering more than other members of the Faculty receive holding similar responsible positions, and as a result these places are often filled by young graduates with no practical experience, very much to the detriment of the school.

"To pay all these heavy expenses, either the tuition must be very large or the endowments very generous. * * * * In most of the best engineering schools the annual tuition is $150 and upwards, although some of the very best have free, or nearly free, tuition.

"But even with these large fees, the schools are not self supporting unless the number of students is very great. In one school reporting these facts, the annual expenditure for instruction and facilities is given as $31,000, while the whole number of engineering students in 1890–91 was but sixty-two. The annual tuition is but $150, but this is remitted in many instances, so that, counting out these excepted ones and those who hold scholarships, there are not more than fifty who pay the full amount, producing an income of $7,500, or only about one-fourth the cost of instruction. That is to say, for every $150 the average student pays, some one else pays $450 in order that he may be taught."—*Engineering News, Vol. XXVIII, 1892, page 546.*

Appropriations asked for the Michigan Mining School. Current expenses two years.

Physical laboratory	$1,000
Chemical laboratories	3,450
Assaying	800
Ore dressing and stamp mill	2,400
Photographic department	500
Drawing, Mechanical engineering, Electrical engineering	1,200
Mining engineering and surveying	1,280
Mineralogical laboratory	175
Petrographical laboratory	120
Geological laboratory and field work	1,000
Library, reading room, binding, etc.	5,000
Fuel and lights	4,300
Insurance	3,500
Repairs	1,000
Freight, express, drayage, printing, catalogue, telephone, reports, postage, etc.	2,000
Care of grounds, water supply, etc.	1,000
Contingent expenses	5,000
Salaries, labor, etc.	46,060
Total	$79,785
Estimate for 1891-92	73,400
Increase asked for	$6,385

Pupils, 1½ times as many as at this time in 1891.

Appropriations asked for the Michigan Mining School. Building and equipment.

Engineering building	$30,000
Equipment, moving and altering old building	11.500
Director's residence	6,000
Equipment of physical laboratory	4,000
Chemical laboratory	500
Ore dressing and stamp mill	1,200
Metallurgical department	600
Photographic laboratory	400
Mining engineering	75
Petrographical laboratory	380
Fireproof safe	500
Total	$55,155

INSTRUCTION UNDER THE CHARGE OF THE DIRECTOR.

During the past summer many additions were made to the collections in mineralogy which were thus put in excellent condition, and it is hoped that they will not require any specially large expenditures for a number of years. Of course the ordinary wear and tear due to the use of collections by a large class every year need to be made good, while certain changes have to be made from year to year to meet the commercial changes in the subject; *i. e.*, certain minerals become very rare or of but little importance, while others that were formerly either rare or nearly valueless are found abundantly, or else become of great economic importance. In an institution professing to give instruction relating to the mineral wealth of the world, pace must be kept with the various commercial changes, in order that the graduates may be prepared to engage in their future work more understandingly.

Besides the additions made to the collections, both the lecture and the practice collections have been rearranged, and the lecture collection relabeled and renumbered during the past summer, to correspond with the sixth edition of Dana's System of Mineralogy published at that time. I have also entirely rewritten and revised my lectures on mineralogy to correspond, a labor of no small proportions.

The lithological collection has been numbered and labeled, and lectures were given in lithology in 1891–92, to the students of the first year and to various special and graduate students. In 1892–93 instruction and lectures upon physical geology and lithology have been given to the graduating class and others, numbering some twenty men.

As usual the laboratory work has been attended to by the instructors and assistants, Messrs. Hubbard, Patton, Seaman, and Lane, who have also attended mainly to the work upon the collections. I am, however, indebted especially to Mr. Seaman for his labor, care, and skill in this direction.

Dr. Patton gave the lectures upon crystallography in 1892–93, spent much time upon the crystal collection, and has had the principal charge of the laboratory work in mineralogy this year, as last.

Dr. Lane has given the instruction in petrography, paleontology, and stratigraphical geology, both years, and in 1891–92 that in economic geology. Dr. Patton assisted him in the laboratory work in petrography.

The design of the instruction under the Director's charge is to give that training, knowledge, and skill that all men who are engaged in mining ore and other useful mineral deposits ought to have. In mineralogy the design is not only to have the student familiar with all the minerals he will be likely to meet in his life work, but also to train him in methods of observation and research that he will afterwards need. This course is the foundation for all the subsequent work in geology, etc. In petrography the object is to familiarize the student with the use of the microscope, an instrument that every engineer ought to be familiar with; it is also intended to give him some idea of the optical properties of minerals, and to teach him the various alterations and changes that have taken place in the minerals and rocks—a knowledge that he must have, if he is to understand his subsequent work in lithology and physical and economic geology, as almost every question relating to ore deposits is intimately dependent upon the facts of petrography.

It is not intended to make the undergraduates petrographers—a work that would require all their time for three years at the very least—but to give them just that kind of knowledge and skill which they need for their subsequent work.

In lithology it is intended to give the student a practical working knowledge of the rocks of the globe, their variations and alterations, and such other knowledge concerning them as he needs in his subsequent work. Most of the notes in lithology have been mimeographed and these are readily accessible to the students. In paleontology and structural geology it is not intended to go very far, only to give that instruction in the elements which an engineer needs for his future work, and thus omit much that is given in colleges as a matter of general education. In physical geology it is intended to give a thorough course, on account of its bearings and use in the study of economic geology and in the future work of the engineer. The work in economic geology is intended to be the chief work of the departments under the Director's charge, and all the preceding

instruction is subordinate to and leads to it. It is hoped to make the instruction in this subject philosophical and practical, and thus useful to the engineer. This course will have to be developed by lectures and it will be the work of years to make it complete, as no satisfactory text book upon the subject can be procured. The great difficulty with most teaching in economic geology is that it embodies a great mass of undigested facts that have no scientific or philosophical principles that the student can make use of hereafter. As stated before, the Director finds that apparently his usefulness to the school can be increased if he can give more time to the development of the instruction in his department, as experience has shown well that he can not have the teaching or laboratory work, as a rule, given as he wishes it or as he thinks the needs of this institution demand, unless the assistants or instructors have been trained under him, or at least have entered into the spirit of his methods. In order to accomplish the desired development of his instruction, it is necessary for him to be relieved from certain of the clerical parts of his present work—work that can be much more economically performed by some one else, whose time is not occupied by professional duties, and it ought to be as well done after it has been laid out by the Director. Dr. Hubbard has rendered most able and valuable assistance in this direction during such time as he could be spared from his other duties, but it is not probable that those duties will enable him to be used for this purpose much longer. Much information is sought by the Legislature and the general public concerning the School and its surroundings, and hereafter this ought to be furnished by the clerk or secretary, under the supervision of the Director. The Director has done what he has been able to do in the line of publication as an aid to the School; but with a clerk that is familiar with publication work and educational work, much more ought to be done for the institution in the future.

The following articles and papers by him have been published or are in process of publication, since the Director became connected with the Mining School, in addition to the numerous private reports and papers that have been prepared for the board, Legislature, and others.

1887.

The Volcanic Theory of Ore Formation.

Engineering and Mining Journal, 1887, XLIV., 392.

1888.

The Work of Charles E. Wright, late State Geologist.

The Marquette Mining Journal, March 24, 1888.

First and Second Annual Catalogues of the Officers and Students of the Michigan Mining School, Houghton, Michigan, 1886–1888. 52 pages.

1889.

Report of the State Geologist, 1888–1889. 6 pages.

The Iron Ore of Cumberland Mountain, Rhode Island.

The Bulletin of the Iron and Steel Association, 1889, XXIII., 314

Third Annual Catalogue of the Officers and Students of the Michigan Mining School, Houghton, Michigan, 1888–1889. 55 pages.

Our Marble Monuments.

Portage Lake Gazette, 1889, December 12.

1890.

A Sketch of the Geology of the Marquette and Keweenawan Districts.
In "Along the South Shore of Lake Superior," by Julian Ralph, New York. 1890. 20 pages.

Report of the State Geologist for 1889–1890. Six pages.

Mineralogical Description of the Llana del Inca and the Dona Inez Meteorites.
Proceedings of Rochester Academy of Science, 1890. I., 95–98.

Catalogue of the Michigan Mining School, Houghton, Michigan, 1889–1890. 72 pages.

1891.

A Sketch of the Geology of the Marquette and Keweenawan Districts. Second Edition, revised. 26 pages.
In "Along the Bowstring, or South Shore of Lake Superior," by Julian Ralph. New York. 1891.

Report of the Director and Treasurer of the Michigan Mining School, Houghton, Michigan, 1886–1890. 148 pages.

Report of the State Geologist for 1890–1891. Eight pages.

On the Relations of the Eastern Sandstone of Keweenaw Point to the Lower Silurian Limestone.
American Journal of Science, 1891. (3) XLII, August. Science, 1891, July.

The South Trap Range of the Keweenawan Series.
American Journal of Science, 1891. (3) XLII, 417–419.

Catalogue of the Michigan Mining School, Houghton, Michigan, 1890–1891. 102 pages.

Report of the Director of the Michigan Mining School for 1890–1891. 59 pages.

1892.

A Sketch of the Geology of the Iron, Gold, and Copper Districts of Michigan. 113 pages.
Report of the State Board of Geological Survey. Lansing. 1893.

Serpentines of the Coast Ranges in California.
American Geologist, 1892. IX, 277–278.

Report of the State Geologist, 1891–1892. 16 pages.

Subdivisions of the Azoic (Archæan) in Northern Michigan.
Science, 1892, XX, American Journal of Science, 1893, January.

Sandstone in the Copper Region.
The Engineering Magazine, 1893, IV, 643.

Catalogue of the Michigan Mining School, Houghton, Michigan, 1891–1892. 175 pages.

The general internal work of the School has gone on more harmoniously and smoothly than ever before; and but very little friction has resulted between the Faculty and students, although a goodly number of the latter

have been sent away. This has been done quietly and has been quietly acquiesced in, as the Faculty has endeavored always to be just and never to act except for causes that the students themselves have fully appreciated.

So far as the internal workings and advance of the school are concerned, it seems to the Director that the board has much reason to be congratulated; and the Director has to point only to the proposed resignation of one of the professors on account of insufficient salary, and to the continued ill health of Professor Kidwell, brought on by overwork. The latter should be relieved, as far as practicable, until he recovers, for a complete break down on his part would be a serious loss to the school, as he is not only one of the best teachers, but also one of the most energetic, hard working, and useful members of the Faculty.

In conclusion, the Director desires that the aim of the school may never be mere numbers, but how high and how thorough work can be done, hoping and striving to do the best.

M. E. WADSWORTH,
Director.

REPORT OF BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction, Lansing, Mich.:*

DEAR SIR—The committee appointed to visit the Mining School for the academic year 1892–3 beg leave to submit the following report:

It was planned to visit the School before the close of the spring term; but a combination of circumstances made it advisable to defer the visit until August. This change of plan was not without advantage, as it enabled us to see more of the field and shop work, which is largely apportioned to the summer term. We take it that the student's success in solving the concrete problems that come to him in the field, is the best measure of the efficiency of the instruction in the more purely theoretical subjects; and so we feel that our examination loses none of its value by the failure to hear lectures and recitations.

We examined the course of study and had described to us by the Director and instructors their plan of work and methods of teaching. The equipment of the School in library, laboratory, and shops was carefully inspected. We met and conversed with a majority of the members of the Faculty, and we found opportunities to learn from the students themselves something concerning their work. The citizens were ready to impart any information that would enlighten us on matters pertaining to the success and popularity of the School. The course of study has not been arranged with a view to giving a liberal education. Every study admitted must justify its presence on the ground of its practical value to the mining engineer or as a foundation for subsequent studies. It may be questioned whether the course of study might not be liberalized somewhat, without detracting from its practical value. General culture thus gained would not be a loss to the mining engineer, while it would be a great gain to the man and citizen. We are not ready to say, however, that the policy of the School is not the right one. Any change from its present policy would have to be carefully guarded, lest it result in diverting the School to other

ends than those for which it was established. Granting that the policy of the School is the right one, no criticism can be made on the order in which subjects are presented nor on the length of time devoted to each.

The library is well supplied with books and periodicals bearing on the special work of the School. Here there is undoubted opportunity to depart from the purely technical, with positive advantage to the student. Our best English and American authors should be accessible to students in all our State educational institutions.

The laboratories are equipped with good modern apparatus and the shops with the latest improved machinery. A pressing need for more room is being supplied by the erection of a new building.

Such of the instructors as we met impressed us as scholarly and practical men, eager for the success of the School and zealous in their work. Professor Kidwell, who is in charge of the mechanical laboratory, is an enthusiastic, self-denying, and hardworking instructor. These qualities render him especially suitable for a position which requires him to devote much time and attention to individual students. But no amount of enthusiasm and self-denial will enable him to attend properly to the large number of students under his charge. Shop work from its nature makes small classes necessary, and it would be a measure of economy for the board to supply this department with additional assistants.

In the field we found several parties of students making the different surveys common to mining operations. In charge of the Director, Dr. M. E. Wadsworth, a large party of students was studying petrography and economic geology in the regions about Negaunee and Ishpeming. Arrangements were made for the committee to inspect this work; but, owing to a misunderstanding, the party was not found until after the close of its day's work. In conversation with the Director and students much was learned as to the thoroughness of the work and the interest manifested.

One day was devoted to an inspection of the neighboring mines and mills in their relation to the Mining School. It is here that the advantages of location become so conspicuous. Expressions of friendly interest in the School were heard everywhere. It has undoubtedly fulfilled the fondest expectations of its promoters to command, in so high degree, this respect. The success of the School is further attested by the occupations of the graduates as shown on the last pages of the catalogue. Although there have been only four graduating classes, the men are found engaged largely in mining engineering, many of them in positions of responsibility.

While we were impressed with the careful and thorough attention which appeared to be given all departments of work, and which was manifest in the enthusiasm of the students, we were no less impressed with the difficulties encountered by teachers and students in connection with their college life. Houghton and Hancock afford meagre accommodations for students; it is difficult to find rooms and board, and the rates are high in comparison with other college towns. Suitable accommodations should be provided at once, either by the citizens or by the Board of Control or perhaps both. The citizens are loud in their praises of their School, but they stop there. The advantages of location in this mining country would be even more conspicuous were this necessity relieved. Not only are the students at a disadvantage, but the Faculty as well, and especially the Director. It will be apparent that in official matters, particularly those appertaining to discipline, the directing officer should be privileged. He should be provided with a house separate and apart from the others. This is a universal cus-

tom in other State institutions and is believed to be necessary and urgent in connection with the Mining School.

The duties of the Director are at present so numerous and exacting as to be a serious drain on his strength. It is impossible for one man to attend to the odds and ends of business management, correspondence, planning and development of school work, and at the same time do efficient work as a teacher, without absorbing most of the hours of the day. Clerical assistance is greatly needed. A steward is needed whose office should be on the grounds. The efficiency of the school demands it. The days of uncertainty and of small attendance are past. It is now a flourishing and successful institution. The Board of Control has the authority and should provide this relief. The School labors under the further disadvantage of the Director having no official part in the meetings of the Board of Control. The Act creating the Michigan Mining School omits providing for this essential feature in its successful government. In the State University and in the Agricultural College, the president is *ex officio* a member of the Board of Regents and the Board of Agriculture. Why should not the Director also be, in the same way, a member of the Board of Control? The Director is the executive officer of the board and should have the right to present all matters appertaining to the School, and he should be the official representative of the Faculty and students. He should, of course, have no vote, but he should have the right of speaking. While the Mining School demands relief in the directions indicated by which its sphere of usefulness may be greatly enlarged, we are pleased to report on the success which has already attended the efforts of its officers and teachers. Its future presents a bright outlook, and our citizens may have confidence in this latest addition to that educational system which has reflected so much luster on the reputation of the State.

We have the honor to remain,

Your obedient servants,

M. E. COOLEY,
HUGH L. BROWN,
ED. L. PARMENTER.
Committee.

December 1, 1893.

AKELEY INSTITUTE.

REPORT OF CHAPLAIN.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—I herewith present my report of Akeley Institute for the academic year 1892–3, as required by the statutes of this State.

BOARD OF TRUSTEES.

The Rt. Rev. G. D. Gillespie, D. D., Grand Rapids, President.
The Rev. John N. Rippey, M. D., Muskegon, Clerk.
The Hon. Dwight Cutler, Grand Haven.
The Hon. George W. McBride, Grand Haven.
Mr. Thomas A. Parish, Grand Haven.
Mr. William Savidge, Spring Lake.
Mr. W. B. Williams, Allegan.
Mr. H. C. Akeley, Minneapolis, Minn.
Mr. George Willard, Battle Creek.
Mr. E. F. Sweet, Grand Rapids.
Mr. N. P. Loveridge, Coldwater.
The Rev. J. W. Bancroft, Hastings.
The Rt. Rev. Thos. F. Davis, D. D., Detroit.
Mr. D. Henning, Chicago, Ills.
Mr. W. J. Dibble, Marshall.

FACULTY.

The Rt. Rev. G. D. Gillespie, D. D., Lectures on the Church.
The Rev. J. E. Wilkinson, Ph. D., Chaplain, Greek, History, Mental Science.
Mrs. J. E. Wilkinson, Principal, English.
Miss Helen V. Cochrane, Mathematics, Latin.
Miss Isabella Cottrell, Science, French.
Miss May Butler, Latin, German.
Mr. J. Francis Campbell, Vocal Music.
Mr. H. C. Post, Head of Instrumental Music.
Miss Anna H. Martin, Assistant, Music.
Mrs. Arthur C. Torrey, Art.
Miss J. K. Ankebell, Housemother.

DEPARTMENTS.

Preparatory, in which grammar grades are taught. The length of this course depends upon the age and attainments of pupils on entering.

Collegiate.—Course of four years, preparing pupils for the University and other colleges. The work done includes all branches required for admission to college courses leading to the various bachelor's degrees, viz., A. B., Ph. B., B. S., etc.

Literary.—This is a course of three years, intended for girls and young ladies whose school life will not extend beyond the Institute. The course includes history, mental and moral science, logic, political economy, art, music, modern languages, and other subjects with which people of education and refinement are expected to be conversant. Bible instruction is given to every pupil, and to the older pupils work in church history is added.

IMPROVEMENTS.

The five years of the school have shown a constant growth in numbers, in buildings, and especially in the quality of the intellectual work done. Our new hall is now finished at a cost of about $22,000. It contains dining room, kitchen, assembly hall, gymnasium, and accommodations for sixty teachers and pupils. It is a substantial building of brick, well arranged for its purposes and provided with the best sanitary conveniences. It is heated throughout with steam. Sickness is an almost unknown quantity in the school, there having been but one severe case in five years.

LECTURESHIPS AND SCHOLARSHIPS.

Through the liberality of Miss Rebecca L. Richmond of Grand Rapids, two lectureships of $1,500 each have been founded, and are a source of pleasure and profit to pupils and teachers and to the citizens of Grand Haven. A want which each year emphasizes, is the need of funds for scholarships. Many girls who would be acquisitions to the school, are yet unable to pay in full the moderate charges of the Institute. The coming year promises well.

JAMES E. WILKINSON.

REPORT OF BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

As one of the committee appointed by your predecessor to visit Akeley Institute. I would respectfully report that I performed that duty on the 19th day of May last, spending the entire day at the school and endeavoring to ascertain the work it is doing so far as such a visit will permit. The buildings are beautifully situated, and the location in that respect all that could be desired.

I heard recitations conducted by each of the teachers, save Miss Cottrell, who was absent on account of sickness, and carefully observed the disci-

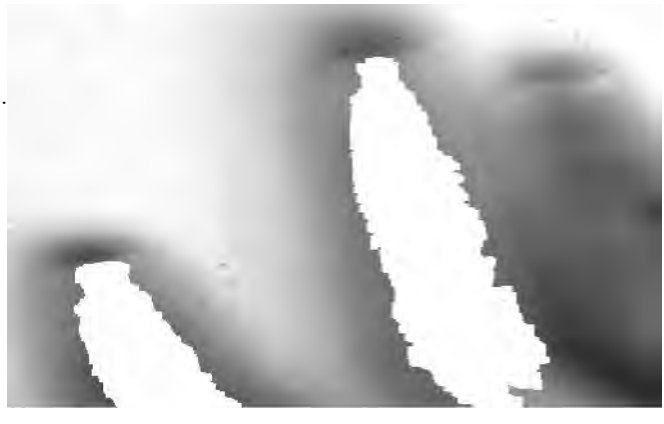
pline and general management of the institution. The class work was in general good, and some of it excellent. The small number of students in attendance renders the classes small, and thus gives teachers an opportunity to do good work.

I was especially pleased with the apparent confidence reposed by the pupils in Mrs. Wilkinson, the principal, and feel sure that in her they have a good friend and counselor. The moral atmosphere of the school I judge to be excellent, and the place one in which parents may safely trust their daughters.

The school has a suitable room fitted up as a gymnasium, and the physical well-being of the students receives due attention.

Yours very respectfully,

ENOCH ANDRUS.



ADRIAN COLLEGE.

REPORT OF PRESIDENT.

HON. H. R. PATTENGILL, *Supt. of Public Instruction:*

DEAR SIR—The following is my report of the work of Adrian College for the academic year ending June 22, 1893;

The courses of study remained as before with the exception that a course in Bible Study was added.

Several changes in the Faculty occurred at the beginning of the year. Prof. Wilbert Ferguson returned from Leipsic University, Germany, and resumed charge of the department of Greek and assumed charge of the classes in German. Miss Fanny Ryan was elected to the chair of History and English Literature, vacated by Prof. C. E. Wilbur. Prof. F. B. Short was elected Professor of Instrumental music in place of Prof. B. H. Rupp, resigned. Other changes were made in the instructorships.

The attendance of students was 146. The number graduated, twelve, of whom two received the degree of Bachelor of Science, five the degree of Bachelor of Philosophy, one the degree of Bachelor of Letters, and four the degree of Bachelor of Music. Others completed courses in the School of Commerce.

The President's work the latter half of the year was in the field, in an effort to secure pledges of contributions to the endowment fund. More than $28,000 has been pledged, the payment in most cases being conditioned on $100,000 being subscribed.

The following is a description of the departments and courses of study as maintained the past year:

PREPARATORY SCHOOL.

The aim of this school is, first, to prepare students to enter college; secondly, to meet the wants of those who, in view of engaging in business, desire only a good English education. The studies taught are those usually pursued in academies and high schools.

To enter this school the applicant should be at least fourteen years of age and should have a good general knowledge of the elementary principles of arithmetic, English grammar, modern geography, etc.

Pupils who are unable to take a collegiate course of instruction and

desire simply a good English education, are privileged to take such studies in the Preparatory and Normal Schools as they may be prepared to pursue with success.

COURSE OF STUDY.

☞ Studies printed in italics are preliminary and must be completed before beginning the course immediately below.

I. LANGUAGES.

I. Latin.

1. *Advanced English Grammar.* Latin Grammar. Inductive Latin Lessons. Daily, first and second terms.
2. *Course 1.* Cæsar. Daily, third term.
3. *Course 2.* Cæsar, Cicero, and Prose Composition. Daily, throughout the year.
4. *Course 3.* Cicero Completed, Virgil's Æneid and Bucolics, and Latin Prosody. Daily, throughout the year.

II. Greek.

1. *Advanced English Grammar.* White's Lessons, Greek Grammar, Xenophon's Anabasis. Daily, throughout the year.
2. *Course 1.* Xenophon's Anabasis, Herodotus, and Prose Composition. Daily, throughout the year.

III. English.

1. English Grammar. Daily, throughout the year.
2. *Course 1.* English Grammar. Three hours a week throughout the year.

II. MATHEMATICS.

1. Arithmetic. Daily, throughout the year.
2. *Course 1.* Arithmetic. Two hours a week throughout the year.
3. *Course 2.* Algebra. Daily, throughout the year.
4. *Course 3.* Geometry. Daily, throughout the year.

III. HISTORY AND POLITICS.

1. United States History. Three hours a week, first term.
2. Civil Government. Three hours a week, third term.

IV. PHYSICAL SCIENCE.

1. *Descriptive Geography.* Physical Geography. Daily, second term.
2. Anatomy and Physiology. Daily, third term.
3. *Advanced Arithmetic, Metric System.* Natural Philosophy. Daily, first term.

NORMAL SCHOOL.

To meet the increasing demand for a class of better qualified teachers in district and graded schools, a Normal Department has been organized in connection with the College. The great need of the public school system —a need that is continually becoming more pressing—is that the schools named be supplied with instructors who are not only educationally qualified, but who have also a knowledge of the principles upon which the art of education is based.

The course of study extends through a period of two years, and is as full and comprehensive as can be thoroughly completed in that time. Those who have been engaged in teaching and who desire to review the common branches or take advanced studies, will have every facility a[illegible] them that is within the control of the department. The Scienc[illegible] ng

will be studied during the second year of the course; in this it will be the aim to make the student familiar with the principles of pedagogical science as they have been derived not only from analysis of the mental powers, but also from the actual work of the school room.

Students who complete the course and pass a creditable examination in the several branches of the same, will be awarded certificates certifying these facts.

In the following course of study, the numerals attached to the several branches indicate the number of recitations per week:

COURSE OF INSTRUCTION.

☞ Studies printed in italics are preliminary and must be completed before beginning the course immediately following.

I. LANGUAGE.

1. *English Grammar.** English Grammar. Three hours a week throughout the year.
2. *Course 1.* Rhetoric. Two hours a week throughout the year.

II. MATHEMATICS.

1. *Arithmetic.** Arithmetic. Two hours a week throughout the year.
2. *Course 1.* Algebra. Daily throughout the year.

III. HISTORY AND POLITICS.

1. United States History. Three hours a week, first term.
2. Civil Government. Three hours a week, third term.
3. *Course 1.* Ancient History. Three hours a week, first term.
4. *Course 1.* Mediæval and Modern History. Three hours a week, second term.
5. *Course 1.* English History. Three hours a week, third term.

IV. SCIENCE.

1. *Descriptive Geography.* Physical Geography. Daily, second term.
2. *Advanced Arithmetic.* Natural Philosophy. Daily, first term.
3. Physiology. Daily, third term.
4. *Natural Philosophy.* Botany. Three hours a week, second and third terms.

V. READING AND WRITING.

1. Reading (selected). Two hours a week, first and third terms.
2. *Course 1.* Reading (selected). Two hours a week, third term.
3. Penmanship. Daily, second term.

COLLEGE OF LITERATURE.

I. GENERAL STATEMENT.

Candidates for admission to the College must be of good moral character, and if from another College must present certificates of regular dismission.

No student can become a candidate for a degree until the studies required for admission shall have been completed.

Certificates of standing from high schools and academies will be accepted in lieu of the corresponding work done here in the lower classes, when the Faculty have satisfied themselves that the work accomplished is a full equivalent, both in extent and thoroughness, to the work done here.

*For the benefit of students not fitted to pursue advanced arithmetic and grammar, daily recitations in more elementary work are provided. Students will be required to enter these classes, if they cannot satisfy the instructors of their ability to carry on the advanced work.

On completing any study and passing a creditable examination therein, a student shall be entitled to a class testimonial certifying these facts.

Examinations for certificates of completion in any of the courses of study are conducted with reference to principles rather than text-books. The Object is to secure thorough scholarship in the courses of study laid down in the several departments, rather than to know that certain books have been read.

Students will not be permitted to pursue, simultaneously, studies requiring more than fifteen recitations per week, except in rare cases by special action.

Students desiring to pursue collegiate studies may do so when the preliminary requirements to the study sought have been complied with. These preliminary requirements are such studies as logically precede the one desired and are essential to its successful pursuit.

Candidates for graduation shall, at the beginning of the year in which they expect to be graduated, present their certificates for studies completed.

II. REQUIREMENTS FOR ADMISSION.

(a) CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS.

Students will be admitted as candidates for the degree of Bachelor of Arts upon passing a satisfactory examination in the following branches of study:

I. ENGLISH LANGUAGE.—Elements of English Grammar; Analysis of Sentences; Orthography and Orthoepy; Punctuation and Structure of Sentences.

II. GEOGRAPHY.—Political and Descriptive Geography of the United States and Europe; Physical Geography. Ancient Geography, especially that of Greece, Italy, and Asia Minor, should be studied along with the preparatory Greek and Latin.

III. HISTORY.—History of the United States. Classical students should also be taught Roman and Grecian History in connection with the preparatory classical studies; Leighton's History of Rome and Smith's History of Greece are recommended as text-tooks.

IV. MATHEMATICS.—*Arithmetic.* The fundamental operations—Common and Decimal Fractions, Compound Numbers, Proportion, Percentage, Involution and Evolution, and the Metric System of Weights and Measures.

Algebra. Definitions and Fundamental rules, Factors, Fractions, Elimination, Involution and Evolution, Quadratic Equations, Simple Indeterminate Equations, Inequalities, Theory of Exponents, Logarithms, Ratio, Proportion, Variation, Series, Binominal Theorem, Undetermined Coefficients, Exponential Theorem, Differential Method, Equations in General, Higher Numerical Equations.

Geometry. Plane, Solid, and Spherical Geometry.

V. PHYSIOLOGY.—As much as is presented in Martin's Human Body, briefer course.

VI. NATURAL PHILOSOPHY.—Gage's Elements of Physics or an equivalent.

VII. CIVIL GOVERNMENT.—Young's Government Class Book or its equivalent.

VIII. LATIN.—*Grammar.* A thorough preparation in the elements. Allen and Greenough's Grammar is recommended; but the manuals of Harkness, Chase, or Gildersleeve, may be used for this purpose.

Prose Composition. Daniell's Exercises in Latin Prose Composition, Parts I. and II.; or Harkness' Introduction to Latin Composition, from page 50 to page 166; or Jones' Latin Prose Composition or other standard work.

Reading. Four books of Cæsar's Commentaries; six select orations of Cicero; and the first six books of the Æneid, to be accompanied with the study of Prosody. The Roman pronunciation of Latin is used. It is believed that three years of earnest labor, with good facilities, will be sufficient for this work; but many students will find it desirable to devote four years to the above preparatory course in Latin.

IX. GREEK.—Thorough preparation in the essentials of Grammar. Goodwin's Grammar is recommended.

Prose Composition. Jones' Exercises in Greek Prose Composition, with the accents. An equal amount of work in any thorough text-book will be accepted.

Reading. Three books of the Anabasis; selections from books VI., VII., VIII., of Herodotus; History of Greece. Close attention will be paid to the grammar of the

texts read, and students will be expected to show a familiar acquaintance with the history and geography. Two years of faithful study will be required to complete this preparatory work.

(b) CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE.

The requirements of this course are the same as for the Classical, except that a student will be required to complete only three years in the study of preparatory Latin and Greek.

(c) CANDIDATES FOR THE DEGREE OF BACHELOR OF PHILOSOPHY.

The requirements for this course are the same as for the Degree of Bachelor of Science.

(d) CANDIDATES FOR THE DEGREE OF BACHELOR OF LETTERS.

Ladies only are admitted as candidates for this degree. The requirements for admission are the same as for the Classical, except that Greek and Geometry are omitted and one year only of Latin is required.

III. COURSES OF INSTRUCTION.

☞ Studies printed in italics are preliminary and must be completed before beginning the course immediately following. The credit allowed for each study is indicated by the number of hours stated, discount being made for each absence from recitation.

I. CLASSICS.

I. Latin.

1. *Latin Grammar; Cæsar, 4 books; Cicero, 6 Orations; Virgil's Æneid, 6 books; Latin Prose Composition, 40 Exercises.* Livy (Books XXI. and XXII.). Latin Prose Composition. Three hours a week, first and second terms. 78 hours.
2. *Same as for Course 1.* Tacitus (Histories and Agricola). Three hours a week, third term. 36 hours.
3. *Livy.* Plautus (The Captives). Terence (Andria). Three hours a week, first term. 42 hours.
4. *Plautus.* Horace (Odes, Epodes); (Satires and Epistles), or selections from Juvenal. Three hours a week, second and third terms. 72 hours.
5. *Ancient History; Livy; Rhetoric.* Quintilian (Books X. and XII.). Two hours a week, first and second terms. 52 hours.
6. *Quintilian.* Seneca (Essays and Letters). Two hours a week, third term. 24 hours.
7. *Seneca; Mental Science.* Cicero (De Natura Deorum), or Selections from Latin Poets. Two hours a week, first and second terms. 52 hours.

II. Greek.

1. *Greek Grammar; Prose Composition (Exercises, with special attention to the accents); three Books of Xenophon's Anabasis; Herodotus, selections from Books VI., VII., VIII.* Selections from Greek Authors. Prose Composition. Three hours a week through the year. 114 hours.
2. *Rhetoric: Herodotus.* Homer (four Books of the Iliad). Three hours a week, first term. 42 hours.
3. *Homer.* Æschylus (Persians and Agamemnon). Three hours a week, second and third terms. 72 hours.
4. *Thucydides.* Lysias (selected orations). Two hours a week, first term. 28 hours.
5. *Lysias.* Demosthenes (On the Crown). Two hours a week, second and third terms. 48 hours.
6. *Mental Science: Demosthenes.* Plato (Apology and Crito). Two hours a week, first term. 28 hours.
7. *Plato.* Aristotle (Nicomachean Ethics). Two hours a week, second term. 24 hours.

Lectures on Comparative Philology. Two hours a week, third term. 24 hours.

II. ENGLISH LANGUAGE AND LITERATURE.

1. *English Grammar; Analysis of the English Sentence; Punctuation; Orthography.* Rhetoric. In connection with text-book work frequent practical exercises are

given in Diction and Structure of Sentences. Two hours a week through the year. 76 hours.

2. *Rhetoric; General History.* History of English Literature. Study of Manual. Original studies of representative writers in each period, with themes. Three hours a week through the year. 114 hours.

3. *History of English Literature.* Selections from standard authors, such as Pope's Essay on Criticism; Milton's Areopagitica; Bacon's Essays; Gray's Elegy; Bryant's Thanatopsis. One hour a week through the year. 38 hours.

4. *History of English Literature.* Study of Shakespeare. Selections from the great tragedies. One hour a week through the year. 38 hours.

5. *English Literature; Psychology.* Philosophy of Composition. Text-book and Lectures on the Principles of Literature. Two hours a week through the year. 76 hours.

III. MODERN LANGUAGES.

I. French.

1. Beginning French. Three hours a week through the year. 114 hours.

2. *Course 1 in French.* Selections from standard authors, with French Grammar. Two hours a week through the year. 76 hours.

II. German.

1. Beginning German. Grammar and Select Reading. Three hours a week through the year. 114 hours.

2. *Course 1 in German.* Selections from standard authors, with German Grammar. Two hours a week through the year. 76 hours.

IV. MATHEMATICS.

1. *Algebra, Geometry.* Trigonometry—Plane and Spherical. Three hours a week, first and second terms. 78 hours.

2. *Trigonometry.* Analytical Geometry. Three hours a week, second and third terms. 72 hours.

3. *Analytical Geometry.* Calculus—Differential and Integral. Three hours a week through the year. 114 hours.

4. *Calculus.* Mechanics. Three hours a week, first and second terms. 78 hours.

5. *Trigonometry.* Surveying. Two hours a week, second and third terms. 48 hours.

6. *Mechanics.* Astronomy—General. Two hours a week through the year. 78 hours.

V. HISTORY.

1. *United States History.* Ancient History. Three hours a week, first term. 42 hours.

2. *Ancient History.* Mediæval and Modern History. Three hours a week, second term. 36 hours.

3. *Courses 1 and 2.* English History. Three hours a week, third term. 36 hours.

4. *Courses 1, 2, and 3.* Philosophy of History. Two hours a week through the first term. 28 hours.

VI. POLITICAL SCIENCE.

1. *General History; Psychology.* Political Economy. Three hours a week, first term. 42 hours.

2. *History of Civilization.* Sociology. Two hours a week, second and third term. 48 hours.

3. *Political Economy.* International Law. Three hours a week, second term. 36 hours.

VII. PHILOSOPHY.

1. *Rhetoric; Physiology; English Literature.* Psychology and Metaphysics. Three hours a week through the year. 114 hours.

2. *Psychology.* Deductive Logic. Three hours a week, first term. 42 hours.

3. *Psychology; Botany, Zoölogy or Physics.* Inductive Logic. Three hours a week, second and third terms. 72 hours.

4. *Psychology.* Moral Science. Three hours a week, first term. 42 hours.
5. *Metaphysics.* History of Philosophy. Two hours a week through the year. 76 hours.
6. *Psychology.* Theism. Three hours a week, second and third terms. 72 hours.

VIII. PHYSICAL SCIENCE.

1. *Elementary Philosophy; Geometry; Trigonometry.* Physics—Experimental and Recitations. Three hours a week through the year. 114 hours.
2. *Geometry; Preparatory Science.* General Chemistry—Experimental and Recitations. Three hours a week, first term, Inorganic; second and third terms, Organic. 114 hours.
3. *Inorganic General Chemistry.* Analytical Chemistry—Laboratory work in Qualitative Analysis, with Lectures. Three hours (equivalent) a week, second and third terms. 72 hours.

IX. NATURAL HISTORY.

1. *Natural Philosophy.* Botany—Structural—Class Work. Three hours a week, second term. 36 hours.
2. *Structural Botany.* Botany—Systematic—Class and Laboratory Work. Three hours a week, third term. 36 hours.
3. *Physiology.* Zoölogy. Three hours a week, first term. 42 hours.
4. *Botany; Zoölogy.* Geology. Three hours a week, second and third terms. 72 hours.

X. THEOLOGY.

The preliminaries for each of the following courses are courses 1, 2, and 3 in History and English Literature.

1. Church History. Three hours a week, second and third terms. 72 hours.
2. Old Testament Theology. Two hours a week through the year. 76 hours.
3. New Testament Theology. Three hours a week, first term. 42 hours.
4. Systematic Theology. Two hours a week through two years. 152 hours.
5. Homiletics and Pastoral Theology. Three hours a week through the year. 114 hours.
6. Hebrew. Three hours a week through the year. 114 hours.

IV. REQUIREMENTS FOR GRADUATION.

Four degrees are open to undergraduate students: the degrees of Bachelor of Arts, Bachelor of Science, Bachelor of Philosophy, Bachelor of Letters. A candidate for any one of these degrees must be regularly enrolled as a student for at least the last two terms of the course.

(a) THE DEGREE OF BACHELOR OF ARTS.

A student presenting certificates for 750 hours' work in the Department of Classics with sufficient certificates from other departments to comprise altogether 2,200 hours' class-work, shall be entitled to the degree of Bachelor of Arts.

The ancient languages are made the required basis of this degree, while the student is allowed to select from the courses of study, in other departments, such branches as his attainments and purposes prepare him to pursue with success. Thoroughness and comprehensiveness in those studies appropriately forming the foundation of this degree, are thus combined with the greatest latitude in the selection of such studies in addition as shall be best adapted to the aptitudes and life-purposes of the student.

(b) THE DEGREE OF BACHELOR OF SCIENCE.

A student having completed at least 375 hours of study in the Department of Mathematics, and 375 hours in Physical Science and Natural History, together with a sufficient number of courses in other departments to amount in all to 2,200 hours, shall be entitled to the degree of Bachelor of Science.

The mathematics and the natural sciences are made the required basis of this degree, though the student may select such courses of study in other departments as he may find consistent with his attainments and preferences. It is a course of study particularly adapted to those who contemplate pursuits in life that require a knowledge of the exact sciences and rigorous mental discipline.

(c) THE DEGREE OF BACHELOR OF PHILOSOPHY.

When a student shall have completed at least 750 hours of study in the Departments of Philosophy, English Literature, History, and Political Science, together with a sufficient number of courses in other departments, to amount in all to 2,200 hours, he shall be entitled to the degree of Bachelor of Philosophy.

The requisites to this degree are such as to secure the student taking it, a special knowledge of English Language and Literature, and the mental and political sciences. It comprehends a field of knowledge and discipline especially valuable to the student who proposes entering a profession involving public speaking or writing, as the law, the ministry, or journalism.

(d) THE DEGREE OF BACHELOR OF LETTERS.

Ladies only are admitted as candidates for this degree.

When the candidate shall have completed at least 750 hours of study in the Departments of English Language and Literature, Modern Languages, History, and Music, together with a sufficient number of courses from other departments to amount in all to 2,200 hours, she will be entitled to the degree of Bachelor of Letters.

A credit of one hour will be allowed for each lesson taken in instrumental or vocal music. Credits also will be allowed for all studies pursued in Latin, Greek, or mathematis, following those required for admission as candidates for this degree.

This degree is adapted to young ladies who do not care to become candidates for the more exacting collegiate degrees, and who wish to give more particular attention to music and literature. Its purpose is to give an extended acquaintance with English Literature, Music, and Polite Letters in general, and at the same time to give opportunity for attainments in other directions. While somewhat less rigorous in its requirements than the other degrees, it is believed it will secure a good general culture, and prepare especially for the social and domestic duties of a refined and useful life.

SCHOOL OF MUSIC.

The instruction in music is divided into two departments, instrumental and vocal. The former embraces all the branches of the several grades exhibited in the subjoined courses of study, except the vocal. Of this branch, however, students who are candidates for graduation in instrumental music will be expected to become members of the class for exercise in class and chorus singing. The Department of Vocal Music includes all the vocal part of the Course of Study, and the full course in Harmony and History of Music. In addition to these branches, the student desirous of graduation in vocal, music will be required to take the piano of the first three grades.

COURSE OF STUDY.

FIRST GRADE.

Piano.—Lebert and Stark's Piano Method, Book First; Gordon's Piano Method; Koehler's Studies, op. 50; Clementi's Sonatinas.

Organ.—Ritter's Organ School, Part Second; Zundel's First year on the Organ; Rink's Organ School, Book First; Thayer's Art of Organ Playing, Part First; or selections from the authors named.

Vocal.—Lessons in the Formation of Tone and Management of the Breath; Lessons in Reading; Tonic Sol Fa Notation; Root's School of Singing.

SECOND GRADE.

Piano.—Lebert and Stark's Piano Method, Book Second; Mason's Touch and Technic; Plaidy's Studies; Duvernoy's Studies; Doering's Studies; Conconi's Ecole Melodique, op. 30; Sonatinas from Kuhlau, Dussek, etc.

Organ.—Rink's Organ School; Buck's Studies in Pedal Phrasing; Thayer's Art of Organ Playing.

Vocal.—Scale and Arpeggio Practice; Root's School of Singing; Conconi's Lessons for Middle Register of Voice, op. 9, Part Fourth, and op. 10; Studies in Solfeggio; Tonic Sol Fa Notation continued; Ballads.

THIRD GRADE.

Piano.—Lebert and Stark's Piano Method, Book Third; Heller's Studies, op. 45 and op. 46; Loeschorn, op. 66, Three Books; Bertini's op. 29 and op. 32; Haydn's Sonatas; Chopin's Mazurkas and Waltzes.

Organ.—Southard and Whiting's Organist; Lemmen's Organ School, Part Second, Rink's Organ School, Part Fifth; Best's Arrangements, Easy Preludes and Fugues by Bach, Mendelssohn, etc.

Harmony.—Cornell's Primer of Modern Tonalities; Professor's Lectures.

Vocal.—Bassini's Method for the Voice; Scale and Arpeggio Practice, continued; The Laws of Expression Studied from Songs of the Italian, English, and German Composers: Four Part Music in Class.

FOURTH GRADE.

Piano.—Lebert and Stark's Piano Method, Book Fourth; Lœschorn's Octaves Studies; Mœscheles, op. 73; Cramer's Studies; Heller op. 16; Bach's Fifteen Inventions; Mozart's Sonatas; Mendlessohn's Songs Without Words; Selections from Schubert Schumann, Weber, etc.

Organ.—Mendlessohn's Organ Sonatas; Best's Arrangements; Studies, Preludes, Fugues, Toccatas, Fantasias and Variations from Bach, Mendlessohn, Hesse, Rink and composers.

Harmony.—Richter's or Emery's Harmony.

Vocal.—Lablache's Vocal Exercises; Berdogni's Art of Phrasing; Church and Oratorio Music—Selections from Handel, Mozart, Mendelssohn, etc.; Chorus Practice.

FIFTH GRADE.

Piano.—Mœscheles' Studies, op. 70; Selections from Bach's Well-Tempered Clavichord; Chopin, op. 10 and op. 25; Beethoven's Sonatas; Schumann's Etudes; Concert Pieces by Liszt, Rubenstein, Brahams, Raff, etc.

Organ.—Studies of Fourth Grade Continued.

Harmony.—Wolfhart's Guide to Musical Composition; Paner's Musical Forms; Ayer's Counterpoint and Canon.

History.—Fillmores History of Music; Fillmore's History of the Piano Forte.

Vocal.—Selected Studies; Opera Airs—Selections from Rossini, Donizetti, Verdi, etc.; Various Forms of Musical Composition—Concerted Music, the Glee, Madrigal, Duet, Trio, Quartette, etc.

In addition to the work laid out in the above course, all students expecting to be graduated in music, either instrumental or vocal, are urged to pursue the following literary studies during their course. Graduating students completing the literary work here laid down will receive special *honorary mention* at graduation. The purpose of this is to secure some general literary culture to graduates of this department as well as special proficiency in music:

First Year.—Rhetoric, (two hours a week). History, (three hours a week).
Second Year.—English Literature, (three hours a week). Sound, (one hour a week).
Third Year.—German or Italian, (three hours a week).
Fourth Year.—History of Music, (two hours a week).

SCHOOL OF THEOLOGY.

It is the aim of this school to prepare for the work of the Christian ministry by making the student intelligent as to the history and doctrines of Christianity, the forms of church organization, the art of preparing

and delivering sermons, the pastoral work of the minister, and at the same time to give such general culture as will prepare for the greatest usefulness in society.

COURSES OF STUDY.

JUNIOR CLASS.

Hebrew.—Elements of the Grammar and Select readings from the Old Testament.
Mental Science.—Its Special Relations to Theological Studies.
Moral Science.—Its Relation to the Ethics of the Bible.
Biblical Theology.—The Doctrines of the Bible considered in view of their gradual development.
Natural Theology.—Its Relation to the various Theories of Modern Scepticism.

MIDDLE CLASS.

Greek Exercises.—Critical Analysis and Interpretation of select passages from the New Testament.
Hebrew.—Selections from the Old Testament, especially in view of their Grammatical Construction and Exegesis.
Systematic Theology.—Embracing Apologetics, Dogmatics, Anthropology, Soteriology, Eschatology and Ecclesiology.
Homiletics.—Structure and Preparation of Sermons.
Biblical Archæology.—Including the History and formation of the Sacred Canon.

SENIOR CLASS.

Church History.—The Rise and Growth of the Church.
Practical Homiletics.—The Delivery and Criticism of Sermons by the Class—Pulpit Elocution.
Polemical Theology.—Embracing the Special Examination of the Doctrine of the Will, and the History of Doctrines.
Pastoral Theology.—The work of the Preacher among his People.
Church Polity.—The History and Critical Analysis of the Constitution and Discipline of the Methodist Protestant Church—Various forms of Church Government.

The foregoing arrangement of studies, as a cursory examination will show, is quite comprehensive and embraces all the essentials of a thorough and systematic course of theological reading.

Students in the college classes will be allowed to substitute such studies of the course as can be appropriately interchanged for cognate studies in their college curriculum, provided all preliminary studies are completed; and by so doing they can readily complete the above course in two years after graduation when, if they pass creditably the required examinations, they will receive the degree of BACHELOR OF DIVINITY.

For those who are too far advanced in life or who from any other cause cannot devote the time necessary to pursue and complete a full collegiate course in view of the foregoing course in theology, and who are adjudged to have a good degree of fitness for the work of the Sacred Office, the course of study given below has been prepared. Those desiring to take the course, but not having had sufficient school training to pursue it with success, are required to master the studies preliminary to the Normal course.

FIRST YEAR.

First Term.—Review of English Grammar, (3). Ancient History, (3). Rhetoric, (2) Elementary Physics, (5). English Literature, (3).
Second Term.—Review of English Grammar, (3). Rhetoric, (2). English Literature, (3). Physical Geography, (5). Church History, (3).

Third Term.—Rhetoric, (2). English Literature, (3). Church History, (5). Physiology (5).

SECOND YEAR.

First Term.—Psychology, (3). Zoölogy, (3). Homiletics, (3). Old Testament Theology, (2). Systematic Theology, (2). History of Civilization, (2).
Second Term.—Psychology, (3). Homiletics and Pastoral Theology, (3). Old Testament Theology, (2). Systematic Theology, (2). Geology, (3). Botany—Structural, (2).
Third Term.—Metaphysics (3). Old Testament Theology, (2). Systematic Theology, (2). Pastoral Theology, (3). Geology, (3). Practical Homiletics, (2).

THIRD YEAR.

First Term.—Systematic Theology, (3). New Testament Theology, (3). History of Doctrine, (3). Moral Science, (3). Deductive Logic, (3).
Second Term.—Systematic Theology, (3). Natural Theology (3). History of Doctrine, (3). Inductive Logic, (3). History of M. P. Church, (3).
Third Term.—Systematic Theology, (3). Natural Theology, (3). Inductive Logic, (3). History of Doctrine, (3). Polity of M. P. Church, (3).

SCHOOL OF COMMERCE.

Attention is called to the fact that students may receive instruction in this school upon the same terms as in the literary departments. The usual high charges for such tuition have been so greatly reduced, that the expense of securing a thorough business and shorthand education is within the reach of all.

A fair knowledge of the branches taught in common schools is desirable on the part of those entering this school. Students can enter at any time. Terms and vacations occur the same as in the other schools of the College. Certificates will be given to those students completing the studies of either of the departments of this school.

Students in the School of Commerce, by obtaining permission from the Faculty, may receive instruction in any of the classes of the Normal School, the Preparatory School, or the Collegiate Department without any extra charge

Students in the School of commerce have free access to the College library and reading room; they may also enjoy the benefits of the College literary societies and all of the various advantages open to students of other departments in the College.

Three departments are comprised in this school: the Department of Accounts, the Department of Penmanship, and the Department of Stenography.

It is the design of the Department of Accounts to acquaint the student with a practical knowledge of book-keeping in all its phases, from simple farm accounts to the more complex forms of banking and wholesale manufacturing establishments; also of commercial law, arithmetic, business correspondence, business penmanship, etc.

The Department of Penmanship is adapted to the wants, first, of those who wish to become skilled penmen and professional teachers; secondly, to prepare teachers of public schools to teach penmanship in a systematic and successful manner. It also affords an excellent opportunity to all who wish to improve their hand-writing and thus pave their way to success in any vocation.

The course in this department consists of plain and and ornamental

writing, with a thorough drill on the principles, pen-flourishing, card-writing, and pen-drawing.

Shorthand writers are so generally employed in all business houses, that a knowledge of the art in connection with type-writing has come to be an indispensable qualification. In view of this, provision has been made for teaching the most simple and popular system. It has been a very unfortunate feature of the art heretofore that years of practice were necessary to perfect one in it. Eclectic shorthand has demonstrated that it is possible to acquire the art in a few months.

Students desiring to become proficient in the use of the type-writer, will here find the most approved style for their daily use.

J. F. McCULLOCH,
President.

REPORT BOARD OF VISITORS.

To the Superintendent of Public Instruction of the State of Michigan:

DEAR SIR—Your committee appointed to visit Adrian College begs to submit the following report:

We visited Adrian College April 10, 1893, and found teachers and pupils engaged in their usual work.

There are enrolled about 125 students in all departments. The departments are:—Preparatory, Normal School, School of Music, School of Theology, School of Commerce, and the College of Literature. Four courses of study are offered in the School of Literature: classical, scientific, philosophical, and English. The degrees conferred are: Bachelor of Arts, Bachelor of Science, and Bachelor of Letters. Ladies only are admitted as candidates for the degree of Bachelor of Letters. The requirements for graduation to this degree are the same as those for the degree of Bachelor of Arts, with the exception of Greek and geometry which are not required. The requirements for admission to any of the courses for degrees are about the same as at the State University. Graduates from the schools other than the College of Literature receive certificates of graduation. About forty students are enrolled in the College of Literature.

Instruction is given entirely by the method of text book and recitation. Considerable liberty is given in choice of studies.

While the institution evidently labors under financial embarrassment and its numbers are too few to develop much intellectual enthusiasm, it is the effort of the teachers to do thorough work and, while communicating useful knowledge, to bring about the best results in personal character. The surroundings seem wholesome and healthful. The dormitories are plainly furnished, commodious, and comfortable.

The general library is very small, but supplemented by excellent libraries in each of the literary society rooms.

Respectfully submitted,
A. B. STORMS,
M. J. WHITNEY,
E. A. WILSON.

ALBION COLLEGE.

REPORT OF PRESIDENT.

HON. HENRY R. PATTENGILL, *Superintendent Public Instruction:*

SIR—I have the honor to present herewith the Report of Albion College for the year 1892–3, as required by statute.

ATTENDANCE.

The aggregate attendance of students for the College year—from September, 1892, to June 22, 1893—was 627. This was an increasee of seventeen over the preceding year. The number in the College of Liberal Arts was 195, divided as follows:

Studying for Master's Degree	12
Seniors	24
Juniors	32
Sophomores	45
Freshmen	79
Under University plan	3
Total	195

Of these, three received the Degree of Master of Arts; two, Degree of Master of Philosophy; nine, Degree of Bachelor of Arts; seven, Degree of Bachelor of Philosophy; four, Degree of Bachelor of Science; three Degree of Bachelor of Letters.

In the Conservatory of Music seven graduated in the course of Piano Music, and two in Voice.

In the School of Painting there were two graduates.

In the Commercial College sixteen graduated from the Business Course and thirteen in the Shorthand Course.

INCREASED FACILITIES.

The McMillan chemical laboratory has been completed at a cost of $25,000. Raised for equipments, $10,000. The former chemical laboratory has been reconstructed and fitted up for a biological laboratory Hon. Thomas W. Palmer has contributed $10,000 for the endowment of a Lectureship.

Other gifts amounting to about $15,000 have been made to the institu

tion, mostly to increase the endowment. An architect has been employed on plans for a new library building to be erected by Hon. A. T. Bliss. The plans have been completed and accepted by the Board of Trustees.

CHEMICAL DEPARTMENT.

The chemical laboratory is one of the most complete structures for its purpose found in this country, and the college offers nine courses in chemistry; one required and eight elective, with three years of work provided for as follows:

1. General Chemistry.
2. Qualitative Chemistry.
3. Advanced Qualitative Chemistry.
4. Chemical Mineralogy.
5. Organic Chemistry.
6. Quantitative Chemistry.
7. Organic Synthesis.
8. Ultimate Analysis.
9. Organic Research.

A separate room for students in each course.

METHODS.

The methods of study and instruction in the institution are:

1. By use of text book.
2. By lectures.
3. By experimental work and direct study of Nature.
4. By personal research.

SCIENCE ASSOCIATION.

This is an important feature of the work of the college, and the following shows the direction and scope of the work in this association during the year. The subjects treated in the language section with names of persons investigating the same are as follows:

Athens—Prof. F. S. Goodrich.
Germany—Prof. F. Lutz.
Alfred Tennyson—Mrs. Delos Fall.
Idylls of the King—Miss Maud Bristol.
Malayan Folk-Lore—R. C. Ford.
King Lear—Miss Winifred Mills.
A Comparison of the Life and Occupations of an Athenian Citizen in the Time of Plato and Pericles with those of a Roman Citizen in the Time of Cicero—Miss Adelaide Siddall.
In Memoriam—W. H. Simmons.
The Development of English Drama—E. C. Allen.
The Battle of Marathon—C. S. Jacobs.
German Costumes in the 15th Century—Miss Maud Bristol.
Herodotus as Traveller and Story Teller—W. H. Simmons.
The Authenticity of the Fourth Gospel, commonly called St. John—O. D. Ellett.
German Society of the 18th Century—Miss F. E. Elder.

A Review of Euripides' Alcestis—Miss Julia Herrick.
Christian Art in the First Six Centuries—O. D. Ellett.
Roman Drama—Prof. R. S. Avann.
Edgar Allen Poe—C. E. Allen.
Agency of the Fiends in Marlowe's Dr. Faustus—D. A. Hughes.
The Gospel of Peter—Prof. F. S. Goodrich.
Cicero on the Immortality of the Soul—Miss F. E. Elder.
Goethe's Faust—R. C. Ford.
The Attic Theatre—A. R. Johns.
The Poetry of Ralph Waldo Emerson—E. C. Allen.
The Athenian Acropolis—Miss F. A. Riddick.
The Eleusinian Mysteries—Miss Adelaide Siddall.

The line of the Natural and Physical Science Section during the first two terms was in the study of the glacial epoch. At a meeting early in the year this course was decided upon and work at once begun. For several weeks the time was fully occupied in a diligent searching for material, in the accumulation of a bibliography, and preliminary reports upon the nature and value of references cited, which were appropriately classified *in cursu*. Following upon this came a period of miscellaneous papers that had been previously prepared, and then the final reports upon the principal subject. As an indication of the extent of the work it may be mentioned that the bibliography embraces over three hundred references to sources of information found in the college library.

Each member contributed weekly an "item of interest," in a short review of some article in a current periodical of a new book or an account of some special work in progress in the laboratories. Free discussion of all points on the spot, served to correlate these heterogeneous materials, showing them in their true relations to the scientific problems involved.

The papers presented during the year have been as follows:

On the Glacial Epoch:—

The Astronomical Theory of the Ice Age—Forest R. Moulton.
The Physical Causes of the Ice Age, first paper—Robert Horton.
The Physical Causes of the Ice Age, second paper—Newell Cook.
Glaciers and the Nature of Glacial Motion—Miss Myrtie D. Moors.
The Drift—James C. Graves.
Characteristic Glacial Topography—John E. Mealley.
Glacial Distribution, Past and Present—Miss Amanda J. Hamilton.
The Melting of the Ice Sheet—Roy N. Miller.
The Southern Lake Region and the Glacial Epoch—Miss Martha Allen.
Man and the Glacial Epoch—A. Raymond Johns.
Life During the Glacial Epoch—Wilber D. Engle.

Miscellaneous Papers:—

Life and Death—Prof. Delos Fall.
The Marine Biological Laboratory at Wood's Holl, Mass.—Prof. Chas. E. Barr.
The Cinchona Alkaloids—Wilber D. Engle.
Cremation—Miss Marian L. Hathaway.
The Malvaceæ at Home and in the East—R. Clyde Ford.
Cholera and Its Treatment—Lewis O. Atherton.

The Political and Social Science Section has changed and, it is believed, improved its plans and methods from time to time during the past two years. Its present actual working procedure is as follows: The members, averaging for the three terms of 1892-3 eighteen in number, came together weekly around a council board in President Fiske's room, adjoining the library. These sessions were held on Wednesday evenings, beginning at half-past six o'clock and lasting two hours. Each meeting was made up of three sub-sessions, the first of thirty minutes duration, the second and third of forty-five minutes each.

The first half-hour was devoted to the dissemination of "news." Two five minute reports on "Domestic and Foreign News of the Week," by members appointed at the beginning of the term for that purpose, were followed by ten minutes of free discussion, succeeded by two five minute reports on timely and leading articles in the current periodicals. This half hour of news-gathering was followed by a three-quarter hour period given entirely to the submission and discussion of a single paper or report based on exhaustive research. The topics investigated or in process of investigation during the present year were as follows:

FOR THE FALL TERM.

The Catholic Church in the United States—E. C. Allen.
Party Platforms of '92—W. B. Buck.
Current European Affairs—S. Burnham.
Ethics in Political Economy—H. C. Colvin.
Negro Question in United States—E. C. Dunning.
The Miner Law—D. M. Goodyear.
The New Parliament and the Irish Question—D. H. Hughes.
Divorce Problems in the United States—G. R. Kirk.
Civil Service Reform in the United States—J. J. Marshall.
The Political Machine—R. G. McDonald.
Canadian Government and Current Politics in Canada—G. P. McCallum.
Reciprocity—C. McPherson.
Comparative Municipal Governments; Chicago and Berlin—C. M. Mulholland.
Immigration—W. J. Pooley.
Wool Tariff—G. W. Salisbury.
Suffrage—M. E. G. Urch.
Organized Efforts for Social Reform and Relief in Chicago—R. A. Wightman.
Nicaragua Canal—R. B. Way.
Current European Affairs—D. B. Waldo.

FOR THE WINTER TERM.

Modern Religious Tendencies—E. C. Allen.
Comparative Study of U. S. Postal Administrations—W. B. Buck.
Problems of our Common Schools—S. Burnham.
The Jews—E. C. Dunning.
Colonial History of Massachusetts—O. D. Ellett.
Was the Mexican War Justifiable?—J. B. Field.
Alaska; the Present and Probable Future—D. M. Goodyear.

Critical Study of the Character of Columbus—G. R. Kirk.
The Inter-State Commerce Law—A. A. Maywood.
Recent Economic Changes—J. J. Marshall.
England in Egypt since 1878—G. P. McCallum.
History of the Behring Sea Difficulty—R. G. McDonald.
Development of Italy since 1859—C. McPherson.
United States in 1800; Material, Social, and Religious Conditions—W. J. Pooley.
The Single Tax—G. W. Salisbury.
Road Improvements—M. E. G. Urch.
The Present Status of Mexico—R. B. Way.
A Phase of the Charities Question—R. A. Wightman.

FOR THE SPRING TERM.

Conservatism in American Politics; Abraham Lincoln, a Type—E. C. Allen.
The Single Tax—F. E. Dodds.
Should Utah be Admitted into the Union?—E. C. Dunning.
Capital Punishment—J. B. Field.
Paupers and Pauperism—G. R. Kirk.
The Taxation of Mortgages—J. J. Marshall.
The Government of Switzerland—G. P. McCallum.
The People's Party Movement—Chas. McPherson.
Trusts—R. E. Meader.
Socialism and Anarchy—C. H. Perrin.
The Government of Mexico—W. H. Phelps.
The Tammany Organization—S. Schultz.
Alaska—C. S. Valentine.
The Hawaiian Question—J. F. Walker.
The Public School System of Germany—R. B. Way.

The final sub-session of forty-five minutes was given to a formal yet lively discussion of some debatable question, introduced in a ten minute speech by a member appointed in each case three weeks in advance. He was followed by eight members in discussions of from three to five minutes each, every person being free to speak on either side of the question. The first speaker posted references to material in the library bearing on the subject, one week previous to the meeting. The program was varied from time to time by lectures and debates.

LIBRARY.

Five hundred bound volumes were added to the library during the year, and about two hundred unbound volumes. Some progress was made in raising an endowment of $30,000 for the library, the same being required as a condition for the erection of a library building, as stipulated by Hon. A. T. Bliss.

MUSICAL DEPARTMENT.

The Conservatory of Music was very prosperous, notwithstanding the

counter attraction of the World's Fair during the summer months as appears in this summary of attendance:

Piano Music	129
Pipe Organ	6
Reed Organ	1
Violin	19
Guitar	7
Cornet	5
Clarinet	3
Flute	2
Voice	60
Orchestral Students, unclassified	15
Total	247

A teachers' training class for work in the public schools was organized. Aside from general instruction in the course of study, all the students meet as a theory class once a week. Much importance is attached to the study of Harmony, which is a part of the course, and to this a considerably large proportion of time is given. It treats of the construction, entrance, and progression of chords according to established rules. It is subdivided as follows: Formation of scales, Intervals, Triads, and Seventh chords with their inversions and resolutions; Cadences, Altered Chords, Modulations, Suspensions, Passing and Changing Notes, Organ Point, and Harmonization of given Melodies.

The course of study for piano, organ, and violin covers a period of four years for graduation, with two years added to secure the degree of Bachelor of Music.

SCHOOL OF PAINTING AND COMMERCIAL DEPARTMENT.

Both these departments enjoyed the usual degree of prosperity, the attendance in the latter being somewhat in excess of former years.

All things being considered, the institution, financially and educationally, made substantial progress during the year.

L. R. FISKE,
President.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The visitors to Albion College were not able to visit the College in a body. Prof. J. A. Stewart of Port Huron went in the winter. Prof. B. L. D'Ooge and President O. Clute went on May 19. The two latter gentlemen were favored with a most delightful day and found the city of Albion, the college buildings and premises, looking very bright and attractive. The city of Albion is so located that the residence part has good drainage. The College campus is in one of the highest and healthiest parts of town. There is every appearance that all the College buildings may have good drainage. Class rooms, lecture rooms, corridors,

etc., were in good condition as to tidiness, as a general thing. The closets for the men in the new gymnasium were in good condition. The ventilation of class rooms should be more carefully looked after. We are aware how difficult the subject of ventilation is, especially in such buildings as were constructed years ago and by builders who ignored ventilation. Doubtless the president and professors are aware of the limitations under which they labor in this respect and regret them.

We attended morning chapel service. The attendance was good, all came in promptly, all gave reverent attention. The singing in chapel was noticeably spirited. Probably this is due in part to the leadership of a good orchestra.

In some classes the numbers are too great. In logic the section numbers about fifty, which is about twice as large as it should be for this study. The result of too large a section was indicated in a certain heaviness and slowness in recitation, in spite of the admirable work of the professor. In science the teaching is good, but teachers are greatly hampered by lack of sufficient laboratory conveniences. In mathematics the classes were alert and well-trained. In English the work is in good hands and the students are interested. In political economy and history, the methods followed produce good results in the classes.

The classes in foreign and ancient languages were large and, as a rule, well taught and hence interested in the work. The classes in preparatory Latin and Greek showed the effects of trying to cover the maximum amount of work in the minimum amount of time. It seems a mistake to give but two years to the preparatory work in Latin, and but one in Greek, in the classical course. As a result, the amount laid down for the first two years in those subjects seems excessive. It may also be doubted whether it is a wise plan to begin the study of languages with German, instead of with Latin.

Albion is rejoicing over its progress in new buildings. The new gymnasium, considering the small sum it has cost, is a remarkably excellent building. In the hands of an experienced and able man in physical training, it cannot fail to be of value and service. A gymnasium without such a director of physical training is apt to be a source of serious injury.

The new chemical laboratory shows the experienced teacher and chemist in its plans. It is being built in a substantial manner. The money for a library building in accordance with the modern ideas of the uses of a library, is in sight, and the friends are studying needs and plans so as to use the money in the most efficient manner. Such a building will give to the present collection of books a greatly increased usefulness and will doubtless suggest to some wise and generous friend the idea of giving to Albion an endowment for the library, the interest to be devoted to the purchase of books and to the care of them.

The improvements in buildings now in progress will doubtless soon be supplemented by others. Well-built laboratories equipped with the best appliances, would give the able teachers at the heads of the Departments of Zoölogy, Botany, and Physics, a chance to work more completely by modern methods, and to rouse their students to a pitch of enthusiasm in their work.

O. CLUTE.
B. L. D'OOGE,
J. A. STEWART.

ALMA COLLEGE.

REPORT OF PRESIDENT.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The year has been a busy, and we believe a successful one, for Alma College. The regular work has been satisfactorily done. No great changes have occurred. The decision reached respecting honors should be mentioned.

SYSTEM OF HONORS.

A system of Honors based upon high scholarship will be put into operation during the coming year, which it is hoped will serve both as an incentive and reward for the most faithful study.

This will apply to the graduating class in the Preparatory Department, as well as to the classes in the college.

A special Honor List will also be kept of those who have attained marked excellence in any one study or line of work. Names of students attaining these honors will be published on commencement day and also in the annual catalogue.

REVISED OUTLINE OF COURSE OF STUDY.

First Semester.—Psychology, 2. Theory of the Kindergarten, 2. Physiology, 2. Myths, 1. Kindergarten Gifts, 2. Kindergarten Occupations, 2. Delsarte System of Physical Culture, 1. Singing, 1. Practice Teaching.

Second Semester.—History of Education, 2. Prang Drawing and Modeling, 2. Games and Programs, 2. Botany, 3. Kindergarten Gifts, 2. Kindergarten Occupations, 2. Delsarte System of Physical Culture, 1. Singing, 1. Practice Teaching.

A well equipped model kindergarten has been added. Students are not only given a class room education, but are expected to teach under an experienced director.

LIBRARY.

The library has been greatly strengthed during the year. More than one thousand volumes have been added. Many of these were secured in England by our special agent. They are scientific works not found in the

markets of this country. This addition makes the present number of volumes 12,336, and the pamphlets 10,344.

APPARATUS.

The best work can not now be done without laboratories. Our trustees fully realizing this, have made many much needed additions and improvements.

Particular attention has been given to procuring apparatus for hastening tedious processes as much as possible, and to convenience of arrangement. By gifts from Messrs. J. H. Pearson and Webster Batchelder of Chicago, and Mr. C. H. Davis of Saginaw, a very complete gasoline gas machine of large capacity has been purchased, and gas for heating and lighting purposes introduced into the laboratory. A fine spectroscope and a considerable amount of miscellaneous apparatus have also been added to this department.

The biological laboratory is furnished with all necessary apparatus for thorough, practical work. The equipments include a number of compound microscopes of the best foreign make, an automatic microtome of the latest pattern, and other accessories.

The physical laboratory has recently received a large addition of new apparatus. The equipment now includes apparatus for experimentation in mechanics, hydrostatics, light, heat, sound, and electricity. The laboratory has also been supplied with tables and other appliances, which add very largely to the facilities for scientific work.

COLLEGE EXTENSION.

An experiment of a peculiar kind in college extension was instituted not without encouraging results. The Departments of Music and Delsarte were extended to the neighboring towns of Ithaca and Stanton. The privileges of instruction were enjoyed by individuals and large classes in both places. The general principle upon which it was based was that the same advantages should be secured at the same rates in these places as in Alma. There seems to be no good reason why this experiment should not take a wider reach. It will do something in the direction of bringing the best instruction to the homes of the people. It is too soon to pronounce a decided opinion. It may be that it will tend to injure the institution in deterring people from coming to the seat of learning and getting the benefit of the college atmosphere. So far, however, there has been no occasion for anxiety.

KINDERGARTEN.

There has been a change in the principal of the Kindergarten Training Department. The lady called to that position is Miss Clara Dillingham, a graduate and post-graduate of the Free Kindergarten Association of Chicago.

LITERARY.

The Alpha Theta Society is composed of young ladies in the college courses. Besides the literary work which these young ladies did for their

own benefit, they provided for the general public a very satisfactory course of lectures during the year. They also modeled and furnished rooms for themselves and rejoice in the fact that they are free of debt.

RELIGIOUS.

For nothing are we more grateful than for the religious condition of the college. Every student in the Collegiate Department is professedly a Christian. With very few exceptions the same in true of the students in the other departments. This is not because they were such when they came to us. Many come undecided in their religious opinions. There is, however, a religious as well as an intellectual atmosphere about the college which brings them to a decision in that which is of the deepest concern.

AUGUST F. BRUSKE,
President.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *State Superintendent of Public Instruction:*

DEAR SIR—The Board of Visitors to Alma College appointed by your predecessor respectfully submit the following report:

Our visit to the college was made jointly on May 10–11, embracing the full period of one and one-half days. We went without any previous notification of our coming and were thus enabled to see the actual work done. The time chosen was in mid-week, as being more strictly devoted to regular class-room drill and less likely to be interrupted by miscellaneous or general exercises. Our welcome, although we appeared unannounced, was most cordial. Taking advantage of the beauty of the morning, we went quite early to the college grounds and made a leisurely inspection of the campus and the buildings before the hour of opening. To those of the committee who had never visited Alma, the village itself was a revelation. In healthfulness of location, beauty of environment, broad and well-shaded streets, and pleasant homes, no more fit place for the establishment of a college such as Alma is and promises to become could be found. The spirit of the village is both modern and progressive. This is amply manifested by its police and sanitary regulations, its system of sewage, its electrically lighted streets and most excellent hotels.

In moral, religious, and intellectual tone, the town is, for its size, exceptional. That the college and its influence has much to do with this, is beyond doubt; but that the citizens are in hearty coöperation with the college in all that goes to minister to the *higher* and to keep in subjection the *lower* man, is also evident. It is the unanimous opinion of the committee that in no pleasanter place can student life be passed, and that none more conducive to the earnest, quiet, student *spirit* will be easily found. We cheerfully commend the college to the patronage of those seeking for their sons and daughters excellent educational advantages amid pleasant surroundings and in a healthful social atmosphere. All these things may here be enjoyed at an expense, the reasonable limit of which may be made a training in prudent economy rather than (as is too often the case in

many schools) an education in the direction of extravagance and prodigality. "Plain living and high thinking" are possible at Alma; and the *best* American citizenship has had, and still needs to have, this kind of regimen.

The number of students in attendance at the college is somewhat smaller than we thought to find it, but the time of the year doubtless had something to do with this. It occurred to the committee that the institution should justly receive a larger confidence and a more generous support than it does from the Presbyterians of the whole State. The possibilities to the denomination itself and to Christian education in general, to be realized by them through earnest, liberal, loyal sympathy and active effort now, "in the days of its youth" and need, are incalculable, and worthy of special thought.

The committee was present at the general assembling of the students for the work of the day, and was thus enabled to note their conduct upon the campus, their intercourse with each other and with the Faculty, prior to their submission to the rules of routine duty. We found them to be a body of manly, mannerly young men and womanly young women, who evidently believe in the *earnestness* of life and in striving fitly to prepare for its great purpose. The relationship between Faculty and students is apparently most happy and characterized by a degree of friendship, cordiality, and general reciprocity that argues much for the success of both the teacher and the taught. The devotional exercises opening the day, participated in by all alike, were much enjoyed by the Committee. Very properly, all students are required to be present, but the requirement must be a most pleasant one. The cheerful seriousness, happy faces, and excellent deportment of the students were especially noticeable—in marked contrast with some "chapel exercises" (so-called) which linger in our memory. We were also glad to be present at the close of the day at a recitation of the class in Biblical study in President Bruske's room, and to listen to the intelligent questions and ready answers upon this volume, no longer *chained*, perhaps, but really a *sealed* book to so many young men and women in our homes and purely secular schools. We regard this foundation work in character building at Alma as worthy of all praise and imitation.

The secular and special instruction given was quite equal to our expectation, and is amply adequate to the demand made upon it. Each member of the Faculty seemed to be both competent and earnest. Larger classes in some departments would have aroused more enthusiasm and sharper teaching, perhaps, but individual instruction would become the less possible. It may be that, in the matter of Courses and Departments, the college at this stage of its development and equipment is attempting too much and indulging ambition at the expense of economy. In two or three departments this would seem to be the case.

In material equipment, the needs of the institution are fairly met at the present time; but a much larger growth in attendance will necessitate a more generous outlay of money, both in new buildings and in enlarging and remodeling the present ones. The new library building and the library itself are especially commendable. This structure is the queen of the campus, and an invaluable factor in the college work. An admirably selected list of nearly 20,000 volumes occupies its shelves, and these, together with a reading room amply supplied with the best periodicals, furnish abundant information whereon the student mind may be nour-

ished and grow. Few, if any, of her sister colleges are the peers of Alma in this important equipment.

The chemical laboratory is pursuing its work under the disadvantage of inadequate space, but the instruction is excellent and according to the most modern methods.

The physical laboratory has much (and some valuable) apparatus, but it needs much more; and first of all a suitable room for the teaching of this subject, and properly constructed cases in which to preserve it from damage. Its present condition is not creditable to the college. Professor Ewing is worthy of a more generous appropriation and more comfortable quarters. The need of a special building for natural science teaching is very evident, and to this should be transferred the chemical and physical laboratories, thus giving more room for the other departments. This building should also be provided with cases for the preservation and display of apparatus, material, and specimens illustrating natural history, geology, biology, botany, etc.

The work in science teaching will be pursued to much better advantage in its own appropriate building, and its importance demands that it possess one at the earliest possible date. Some other generous man has here an opportunity to build a most grateful monument to his memory.

Your committee was so fortunate as to be allowed to take tea with Miss Gelston and the young women over whom she presides in the Ladies Hall —a feature of the visit long to be remembered. This part of the college seems to be under excellent management, and the student-family and homelike life of the young ladies were almost ideal in the reality. The cultivation of the graces of speech and of manner, and a natural and worthy conventionality seemed nowhere neglected. If the attendance of young women shall increase, more dormitory space will be needed, and even now it is hardly adequate to meet the requirements of proper and modern sanitation.

To conclude, the committee unites in the belief that Alma College is meeting, so far as she can reasonably be expected to do so at this period of her growth, the demands both of her founders and her patrons. Colleges of the best rank are not the product of a day, nor indeed of one generation. The report of the Visiting Board is made with this thought ever in mind, that whatever possesses the qualities of stability, solidity, and ability to endure, is of slow, steady, constant growth. Alma seems to us to be justifying the wisdom of her establishment, and if the Executive Board, the Faculty, and the denomination whose ward she is, shall stand fast to the purpose for which she exists and shall keep within a wise limitation in its educational and Christian work, we bespeak for the college a full measure of success, a career of great usefulness and permanence.

HENRY N. FRENCH,
J. B. ESTABROOK,
C. W. HILLS.

BATTLE CREEK COLLEGE.

REPORT OF PRESIDENT.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

SIR—I have the honor to submit herewith the annual report of Battle Creek College for the academic year ending June 30, 1893. The number of instructors and assistants has increased to thirty, as follows:

William W. Prescott, A. M., President.
Eld. Uriah Smith, Bibical Exegesis and Ecclesiastical History.
Emory D. Kirby, A. B., Greek and Latin Languages.
Joseph H. Haughey, M. S., Mathematics.
Albert W. Kelley, A. M., Natural Sciences.
William T. Bland, B. S., Mental and Moral Sciences.
Charles S. Hartwell, A. M., English Language and Literature.
Percy T. Magan, English Bible and Modern History.
Eld. G. E. Fifield, Ecclesiastical History.
Albert J. Bristol, A. B., Ancient History.
George A. Droll, B. S., Assistant in Natural Sciences.
Mrs. M. D. Counselman, Preceptress.
Mrs. A. Kirby, Drawing and Painting.
Mrs. Flora C. Bland, B. S., Assistant in English Language.
Jeannette Baldwin, Assistant in Latin and Greek.
Ora A. Osborn, Spanish Language.
August Kunz, A. M., German Language.
Edwin Barnes, A. C. M., Vocal and Instrumental Music.

ENGLISH PREPARATORY DEPARTMENT.

Fredrick Griggs, Principal.

Teachers—Mrs. Angelia W. Hobbs, B. S., Elsie M. Westphal, Mrs. Hattie M. Biser, Mrs. Emma R. Wales, Ethel S. Hobbs, Mrs. Flora H. Williams, Emma D. Griggs, Ella R. King.

DOMESTIC DEPARTMENT.

H. Belle Prescott, Superintendent. Clara Williams and Florence Hughes, Assistants.

J. B. Clymer, Business Manager.

The enrollment for the year was 768, being the largest since the opening of the institution.

The graduating class numbered 27, three of whom completed the Classical Course, and five the Scientific Course. The others finished shorter courses, not leading to any degree. No material change has been made in the courses of study since my last report, and but few changes in text books.

The courses of study, as at present arranged, are appended:

GENERAL OUTLINE.

BIBLICAL COURSE.

First Year Preparatory—Book-keeping, 1, Algebra, 2, 3. Rhetoric, 1, 2, American Literature, 3. General Bible Study, 1, 2, 3.

Second Year Preparatory—Physics, 1, Physiology, 2, 3. History, 1, 2, 3. General Bible Study, 1, 2, 3.

First Year—Geometry, 1, 2. Botany, 3. History, 1, 2, 3. General Bible Study, 1, 2, 3.

Second Year—Literature, 1, 2. Elementary Astronomy, 3. New Testament Greek, 1, 2, 3; or General Bible Study, 1, 2, 3; or Spanish, 1, 2, 3. History, 1, 2, 3.

Third Year—Mental Science, 1, Political Science, 2, Moral Science, 3. New Testament Greek, 1, 2, 3; or Higher English, 1, 2, 3. History, 1, 2. 3.

SCIENTIFIC COURSE.

First Year Preparatory—Book-keeping, 1, Algebra, 2, 3. Rhetoric, 1, 2, American Literature, 3. Latin, 1, 2, 3.

Second Year Preparatory—Physics, 1, Physiology, 2, Botany, 3. History, 1, 2, 3. Latin, 1, 2, 3.

Freshman Year—Geometry, 1, 2, 3. History, 1, 2, 3. Latin, 1, 2, 3; or German, 1, 2, 3; or Spanish, 1, 2, 3.

Sophomore Year—Advanced Algebra, 1, Trigonometry, 2, General Astronomy, 3. Latin, 1, 2, 3; or German, 1, 2, 3. History, 1, 2, 3.

Junior Year—English Literature, 1, 2. Political Economy, 3. Zoölogy, 1, Chemistry, 2, 3. History, 1, 2, 3.

Senior Year—Advanced Physics, 1, 2, Mineralogy, 2, (alternating with Adv. Physics), Logic, 3. Mental Science, 1, Political Science, 2, Moral Science, 3. General Geometry and Calculus, 1, 2, 3.

CLASSICAL COURSE.

First Year Preparatory—Book-keeping, 1, Algebra, 2, 3. Rhetoric, 1, 2, American Literature, 3. Latin, 1, 2, 3.

Second Year Preparatory—Physics, 1, Physiology, 2, Botany, 3, History, 1, 2, 3. Latin, 1, 2, 3.

Third Year Preparatory—Latin, 1, 2, 3. Geometry, 1, 2, 3. Greek, 1, 2, 3.

Freshman Year—Advanced Algebra, 1, Trigonometry, 2, General Astronomy, 3. Latin, 1, 2, 3. Greek; 1, 2. 3.

Sophomore Year—English Literature, 1, 2. Political Economy, 3. History, 1, 2, 3. Greek, 1, 2, 3.

Junior Year—Zoölogy, 1, Chemistry, 2, 3; or General Geometry and Calculus, 1, 2, 3. New Testament Greek, 1, Latin, 2, 3. History, 1, 2, 3.

Senior Year—Advanced Physics, 1, 2, Mineralogy, 2 (alternating with Adv. Physics), Logic, 3. Mental Science, 1, Political Science, 2, Moral Science, 3. History, 1, 2, 3.

1. Fall Term. 2. Winter Term. 3. Spring Term.

Roman and Greek history are taught in connection with the reading of authors.

One year's work in drawing is required in each course.

French may be substituted for German.

General Bible study may be pursued for two years in the Scientific or Classical Courses, and substituted as follows: In the Scientific Course for one year of language and one year of history; and in the Classical

Course it may be optional with the line of science work or the mathematics in the Junior year, and one year of history.

No other work will be accepted for the General Bible study or the history in the Bibical Course, for mathematics or the sciences in the Scientific Course, or for Latin and Greek in the Classical Course. Not more than four substitutions (one term each) will be permitted in either course in addition to what is provided for above, and these only by vote of the Faculty.

The facilities of the college have been increased by the addition of a wing forty feet long and three stories in height, to the gentlemen's dormitory. Further than this no permanent improvements have been made in the buildings.

W. W. PRESCOTT,
President.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *Supt. of Public Instruction:*

DEAR SIR—The undersigned, as board of visitors for Battle Creek College visited that institution Monday, Feb. 13, 1893. The daily classroom work begins at 8 a. m. and continues without interruption to 1:30 p. m. Your committee was very favorably impressed with the order and appropriateness of the chapel service, which occurs at 8:45. The manner of entering and leaving chapel, and the quiet, attentive decorum were in perfect harmony with the spirit of the occasion.

In the instruction we found all grades of work represented, from that of the lowest primary to that of college classes. The discipline in all grades is excellent, and the pupils show keen interest in their studies.

The instruction is generally of a commendable character, but in the college preparatory and college classes especially, an improvement could be made by a less free use of the text book in the teacher's hands. The school greatly needs well equipped laboratories, a well selected library, and a larger teaching force. The professors are required to do a greater amount of work each day than is consistent with the highest quality of teaching. Some means should be at once devised to give each teacher much less teaching and much more pay. The devotion of the Faculty to the interests of the school and the students is very great, and worthy of the highest admiration.

The neatness and beauty of buildings and grounds render students' surroundings attractive, and the religious tone of the school is of very marked character.

Battle Creek school is not a high grade college, but it is fully meeting the objects had in mind by the founders of the school: "To give young people a liberal education, and to prepare them for usefulness in the different lines of religious work."

The committee was the constant recipient of the most thoughtful and delicate courtesies from the president and his associates.

Respectfully submitted,
C. H. GURNEY,
J. L. WAGNER,
J. R. MILLER.

BENZONIA COLLEGE.

REPORT OF PRESIDENT.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—In compliance with the requirements of the State statutes, I herewith submit a report of the work and condition of Benzonia College for the past year.

Its record during that time has been very gratifying to its friends; in fact, at no time in its previous history has there probably been such strong ground of hope for future growth and prosperity.

Originally chartered in 1863, it has had a long career of struggle with adversities of a great variety. Planted in the midst of a wilderness, one hundred and fifty miles from a railway point, it patiently awaited the oncoming tide of settlement and improvement; but, even as late as 1889, it was necessary to travel a distance of thirty miles to reach a railroad town. Since then, however, three different roads have penetrated the county, and have given all industrial pursuits a quickening stimulus that has, naturally, affected our college interests. Under the influence of this new impulse, it became possible to erect a new and commodious recitation hall, so that two large buildings are now utilized for college purposes.

ATTENDANCE.

The increase in attendance has also been marked. Year by year in the recent past, the numbers have been growing, until last year the register showed an enrollment of ninety-six different students, representing twenty-two different postoffices. Thus it can be seen that the patronage is by no means of a strictly local character.

RE-INCORPORATED.

In the year 1889, too, a movement was set on foot which resulted in a transfer of all the rights, titles, funds, etc., of Grand Traverse College, the former chartered name, to the present foundation; and articles to this effect were filed with the Secretary of State, January 17, 1893. In the re-incorporation strong efforts were made to place the new organization on a basis fully abreast with the times, so that in this respect the general management can henceforth be conducted with vigor and to the best advantage.

FACULTY.

S. B. Harvey, A. M., Acting President, Latin and German.
Geo. A. Clark, Ph. M., Physical Science.
Alice L. Frye, Lady Principal, Art and French.
Thomas B. Pettitt, Mathematics and History.
Zalous F. McGee, Commerce and Normal.
Laura V. Sanders, Instructor in Shorthand and English.
Winnifred T. Waters, Instructor in Latin.
Agnes F. Hubbell, Instrumental Music.
Frances Minier, Vocal Music.

COLLEGIATE DEPARTMENT.

The classes in the Collegiate Department are all represented, excepting the Senior, and the regular college work has now developed to such a degree that an increase in the teaching force is an imperative necessity.

LIBRARY.

The library has received, as a permanent gift, nearly two thousand volumes from the Rev. E. B. Fairfield. These with considerable donations from other friends, make the facilities for reference in the different lines of work very valuable, and the students generally avail themselves of these advantages.

MUSEUM.

The museum, though by no means large, is fairly well equipped and is rapidly growing.

MUSIC AND ART.

The work of the Music Department is of a high order, as the instructors have each had successful experience in the same lines in other institutions previously. The same comment can also be justly made concerning the Art Department.

NORMAL INSTRUCTION.

A graduate of the State Normal School has charge of the work in commerce and normal instruction, and the fact that students from this department are always in demand for the schools of the surrounding region is all the commendation necessary.

LITERARY.

The Crescent Literary Society affords ample opportunities for advanced literary work and parliamentary drill, while a system of general rhetoricals is provided for all the students.

The Rev. E. S. Shaw has been employed the past year as field secretary, and to his untiring efforts may be attributed no small amount of our material growth.

S. B. HARVEY,
Acting President.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

The committee appointed to visit Benzonia College did so on January 27, 1893, and beg leave to submit the following report:

All the members of the committee were able to be present on the same day, and every facility was afforded for thoroughly inspecting the buildings, instruction given, etc.

The College is located in a most picturesque part of the state. The buildings are bright, comfortable, and safe.

We had the pleasure of listening to instruction given in nearly all branches taught in the institution, and were pleased to see that the instructors, were, as a rule, bright, capable, and interesting. The work done in English, the classics, geography, and the natural and physicial sciences seemed worthy of special commendation.

The excellent record which the College has for carefulness in fostering the moral and spiritual development of its students, is fully sustained by inspection.

The growth of the College has been slow on account of the lack of railroad facilities; but within the last three years, three important railroads have entered the county, so Benzonia is now in direct communication with the entire western portion of the State. The College has also been endorsed by the Congregational churches of the upper part of the State, so that, with revised articles of association, it is in condition to meet the requirements of modern ideas of Christian education.

In order that the College may enlarge its field of usefulness, it needs more available funds for buildings and to furnish its lecture rooms with apparatus. Here is an excellent opportunity for philanthropists to do a great amount of good to the young people of this portion of the State by liberally endowing this institution.

In conclusion we wish to express our pleasure at the cordial, kindly spirit manifested by President Harvey and all the members of the Faculty in our reception and during our visit.

Respectfully submitted,
C. T. GRAWN,
D. E. McCLURE,
REV. P. T. ROWE.

CLEARY'S BUSINESS COLLEGE.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL:

DEAR SIR—Your committee appointed to examine the Cleary Business College performed that duty Feb. 16, 1893, and beg leave to submit the following report:

On our arrival we were ushered into a well ordered brick building where we found ample accommodations for several hundred students. The building is well heated and ventilated by the "Smead" system. The rooms for short-hand and type-writing were well suppplied with the best type-writers and the students were doing rapid and excellent work.

In passing from the rooms of arithmetic and correspondence to the actual business room, we took a view of the chapel and lecture room which has a seating capacity of five or six hundred. In this room the principal has been furnishing to his students lectures from some of our most eminent men. On reaching the actual business room we at once discovered that it was the crowning point of the institution.

Here we spent some time looking over the different lines of business as exemplified by three or four hundred students. The arrangements for actual business are certainly most complete and the department worked with the precision of a great business firm. Mr. Cleary is well supported by an able body of instructors and taking it altogether there are few business colleges in the country better equipped to prepare students for business life.

The instruction is purely and strictly that of a business college.

G. W. WALKER,
M. T. DODGE.

DETROIT COLLEGE.

REPORT OF PRESIDENT.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—I have the honor to submit the following report of Detroit College for the year 1892-3.

The officers of the institution at present are as follows:

BOARD OF TRUSTEES.

Rev. N. P. Dowling, S. J., President.
Rev. Chas. Coppens, S. J., Secretary.
Rev. Augustin K. Meyer, S. J., Treasurer.
Rev. Edward A. Higgins, S. J.
Rev. George H. Worpenberg, S. J.

FACULTY.

Rev. M. P. Dowling, S. J., President.
Rev. Charles Coppens, S. J., Vice President, Prefect of Studies.
Rev Benedict Masselis, S. J., Chaplain.
Rev. Edward A. Higgins, S. J., Professor of Mental and Moral Philosophy, Evidences of Religion.
Rev. James J. Curran, S. J., Treasurer, Professor of Mathematics, Physics, and Astronomy.
Rev. George H. Worpenberg, S. J., Professor of Mathematics.
Mr. Charles Crowley, A. M., Ph. C., Professor of Chemistry.
Rev. Eugene A. Magevney, S. J., Rhetoric.
Mr. Richard F. Corcoran, S. J., Poetry.
Rev. John A. Gonser, S. J., Humanities.
Mr. Cornelius Shyne, S. J., First Academic.
Mr. Charles Crowley, A. M., Ph. C., Second Academic, Div. A.
Mr. Geo. A. McGovern, S. J., Second Academic, Div. B.
Mr. Michael J. Hoferer, S. J., Third Academic.
Mr. Victor F. Ducat, A. M., Commercial.
Mr. John F. O'Grady, Commercial.
Mr. Richard F. Corcoran and Michael J. Hoferer, S. J., Prefects of Discipline.

PRECEPTORS IN SPECIAL STUDIES.

Rev. Charles Coppens, S. J., French.
Rev. George H. Worpenberg, S. J., German, Book-keeping.
Mr. Victor F. Ducat, A. M., German, Book-keeping.
Rev. Eugene A. Magevney, S. J., Elocution.
Mr. Richard F. Corcoran, S. J., Elocution.
Rev. John A. Gonser, S. J., Penmanship.
Mr. Michael J. Hoferer, S. J., Penmanship.
Mr. William H. Machen, Drawing.
Mr. Geo. A. McGovern, S. J., Short-hand, Type-writing.
Mr. Gregory Freytag, Music.

ATTENDANCE.

The total number of students in attendance during the year was 294, divided as follows:

Collegiate Department	65
Academic Department	186
Commercial Course	43

Since the last catalogue was issued, the 4th Commercial Class was discontinued. While it was in existence, the class usually numbered about 30 pupils.

At the beginning of the next session, 1893-94, the 4th Commercial Class will be resumed, as it has been found impracticable to dispense with it altogether.

The Preparatory Course was discontinued several years ago and will not be resumed.

CHEMISTRY.

The Faculty, fully realizing that a practical knowledge of chemistry is daily becoming of more importance, has during the past year made special efforts to improve the Chemical Department, by fitting up a laboratory with all modern conveniences and appliances. It is the intention of the Faculty to furnish the students with a thorough knowledge of the practical workings in chemical science.

The improvements now made in this department afford an opportunity to the pupils to prosecute studies in organic and inorganic chemistry, together with a laboratory course in qualitative and quantitative analysis. The course, as now organized, furnishes an additional means of mental discipline by systematic work in exact science.

It begins September, 1893, and closes with the end of the session. Admission is not granted at any other time than at the beginning of the course, as students are instructed in classes in progressive order.

LECTURES.

With a view to popularizing the study of philosophy, and to diffusing sound doctrines on questions of the highest importance to man, a series of ten lectures was given during the winter season to an audience of

ladies and gentlemen, the average attendance being about 130. The lecturer was Rev. Charles Coppens, S. J., then Professor of Philosophy at the College.

Subjects of the Lectures:

1. History of Ancient Philosophy.
2. History of Modern Philosophy.
3. Nature and Existence of Certainty.
4. Various Sources of Certainty.
5. Instinct and Reason.
6. Limits of Sense Knowledge.
7. Reliability of Witnesses.
8. The Scientific Value of the Evolution Theory.
9. Gaps and Flaws in Darwinism.
10. Man's Specific Superiority to the Brute.

Eleven students received the degree of Bachelor of Arts at the end of the present session.

To give an idea of the course in philosophy leading to this degree the following are the theses in philosophy defended by the Class of '93:

LOGIC.

1. A mere apprehension as such cannot be false.
2. The direct and natural adhesion of all men to many truths as objectively certain, is: 1st. Certainty properly so-called; 2d. Not, however, philosophic certainty; 3d. But capable of becoming such.
3. The theory of universal scepticism is self-contradictory.
4. Des Cartes' methodic doubt is absurd.
5. The reliability of consciousness is included in our capacity to know truth.
6. Our primary ideas are objectively true.
7. Immediate analytical judgments can never be false.
8. The reliability of our memory is contained in our power to know truth.
9. Whoever grants the premises of logical reasoning cannot deny the conclusion.
10. Inner sense is reliable in its perceptions.
11. By our external senses, we really perceive bodies; *i. e.*, substances distinct from our minds, extended, and resisting.
12. The external senses, acting under proper conditions, are reliable with regard to their proper and common objects of sensation.
13. The testimony of men, under proper conditions, can give perfect certainty.
14. The judgments of common sense are true.
15. The evidence of the objective truth is the ultimate and universal criterion of certainty.

ONTOLOGY.

1. The term "being" does not express a genus of which the different classes of beings are the species.

2. The internal possibility of things does not formally depend on the power nor on the will of God.
3. It depends on the intellect and on the essence of God.
4. Limitless vacant space is not a real being existing out of the mind.
5. All action is directed to some end or purpose.
6. The principle of the sufficient reason and that of causality are absolutely certain.
7. No existing quantity can be infinite.

COSMOLOGY.

1. Pantheism and agnosticism are systems destructive of all religion of morality and human society.
2. Neither the world nor the matter of which it is composed can possibly be self-existing.
3. Matter cannot have originated but by creation.
4. The world cannot have existed from eternity.
5. The world is not absolutely, but relatively perfect.

PSYCHOLOGY.

1. The soul of brute animals is irrational and ceases to exist when the organism is destroyed.
2. Besides the faculty of sense, man also possesses the faculty of thought; *i. e.*, intellect or reason, which transcends the whole power and scope of sense.
3. Materialism or sensism, as a theory of knowledge, is fatal to all science.
4. Matter is intrinsically incapable of thought, and to say with materialists that "thought is a function of the brain," is absurd.
5. The will of man is free; *i. e.*, it possesses the power of choice and of determining itself.
6. The soul of man is spiritual.
7. The soul of man is immortal.
8. The intellectual soul is the only principle of life in man, and is the substantial form of the human body.

NATURAL THEOLOGY.

1. The existence of God can be demonstrated by metaphysical, physical and moral arguments.
2. God is infinitely perfect and absolutely simple.
3. God is one, eternal, and immutable.
4. God knows all things possible and all things actual, whether past, present, or future; and even all that any free being would do in any given case.

ETHICS.

1. No created good, but only God, the uncreated good, can be man's ultimate end or object of his ultimate and supreme happiness.
2. Man's deliberate actions can be meritorious, or demeritorious in

respect both to individuals and to society, and even before God, though not in the same sense as before men.

3. A moral act essentially implies liberty and relation to a rule or criterion of morality.

4. The proximate rule of morality is to be found in man's rational nature. The ultimate, absolute, and universal rule of morality is to be found in God; *i. e.*, in the divine wisdom, the source and center of all order.

5. There is an intrinsic difference between right and wrong.

6. We must admit the existence of a natural law, the participation of the eternal law of God in a rational creature.

7. The natural law is in itself immutable; and no one who has the use of reason, can be invincibly ignorant of its more general principles.

8. The natural law is upheld by an adequate sanction which is principally applied in a future life. This sanction consists chiefly in the attainment or the privation of one's ultimate end.

9. Rights considered in their origin are either congenital or acquired; considered in their use, they are either alienable or inalienable; considered in their title and subject matter, they are either perfect or imperfect.

10. Only a rational and free being is capable of rights and duties.

11. Man is bound to worship God with interior and exterior worship.

12. Self-murder, or the direct and deliberate taking of one's own life, is forbidden by the natural law.

13. Lying is always unlawful.

14. The right of permanent ownership is derived from the law of nature, but actual ownership depends on some concrete fact which constitutes the title of property and is recognized by human laws.

15. The social state is natural to man.

16. Authority is essential to every society.

17. The conjugal state is intended, by the law of nature, to be perpetual and indissoluble.

18. The matrimonial bond is not a civil, but a natural contract; and hence in its nature and essential rights, it is not dependent on the State.

19. The duty, and therefore the right, of parents to educate their children, belongs to them by the law of nature. The State cannot arrogate to itself this right; much less can it compel parents to send their children to State schools.

20. The civil social state is of God; its authority, considered in itself, is also of God. But the existence of any civil State in particular is determined by some fact which may be different in different States.

WORK OF THE COLLEGE.

The following extracts from the prospectus of 1893 will show what the College aims at accomplishing:

Its purpose is to impart instruction in the several branches of a Christian and liberal education. The study of Latin and Greek by pupils who may have no use for those languages in after life is chiefly intended to perfect their knowledge of their mother tongue, to develop in them habits of clear and correct thinking, and to prepare their minds for such careers as only well trained intellects can successfully pursue. Classical studies are well known to be of paramount efficiency in acquiring all that is most valuable in mental training.

The culture of both heart and mind being the object of education, the Faculty of Detroit College, in training students entrusted to their charge, combine religion and morality with literature and science.

The course of studies embraces the doctrines and evidences of the Catholic religion, Logic, Metaphysics, Ethics, Astronomy, Natural Philosophy, Chemistry, Geology, Mathematics, Commercial Law, Rhetoric, Composition, Elocution, History, Geography, Penmanship, Short-hand, Type-writing, Drawing, Book-keeping, Arithmetic, and the Latin, Greek, English, French, and German languages.

The scholastic year is divided into two terms; the first begins on the first Monday of September; the second, on the first day of February. The best time for entering is at the beginning of the first term, though applicants may be received at any time during the year. Candidates for admission are examined by the Prefects of Studies, and placed in the class for which they are qualified. If they come from another institution, they are required to bring satisfactory testimonials.

No boarders are taken at the College. Students from outside the city must secure a suitable boarding house for themselves. Board and lodging can be obtained for $3.50 and upwards per week. The College authorities cannot be responsible, except in general, for the behavior of students thus situated; and accordingly no parent should, without providing proper supervisors, send his sons to board in the city, to attend college, unless the young men be of steady habits and reliable character.

The standing of each student in his class is determined by competitions and examinations. There are two examinations of all the classes every year; one at the end of January, and the other at the end of June. In each of the semi-annual examinations the several classes are examined in all the branches studied during the term. Any student failing in the January examinations descends to a lower class, unless he makes up with the class in its regular work. Failure in the June examinations debars a student from advancement to a higher class. Students are promoted during the session, when, by successful efforts, they have fitted themselves for a higher class; and such promotion is held equivalent to the honors of the previous class.

Several times a year, reports are sent to the parents or guardians of the students, to inform them of the conduct and improvement of their sons or wards.

At the annual Commencement, after some very complimentary remarks on the College by the Rt. Rev. John S. Foley, D. D., an impromptu number was added to the program, by the following announcement: "On the 28th of June, 1883, just ten years ago tonight, Detroit College, then seven years in existence, sent forth its first graduates. What they have been you all know. It would ill become me to say more than that their Alma Mater has had no reason to be ashamed of them. One of the earliest of these won the prize for the best historical introduction to the Souvenir volume of the Baltimore Council, in a contest open to the whole country. You have just heard from the lips of our Rt. Rev. Bishop, that several of our graduates, who have taken refuge under the mantle of the Church, took the first prizes a few days ago at St. Mary's Seminary, Baltimore, in competition with students from all parts of the United States. It is peculiarly appropriate that the present students, following in the footsteps of their predecessors, have enabled Detroit College on this tenth anniversary, to record another signal triumph. For some years past a contest has taken place annually in Latin Composition, and another in English Composition, between the Jesuit Colleges of the West. The competing institutions are:

St. Louis University, St. Louis, Mo.
St. Xavier College, Cincinnati, O.
St. Ignatius College, Chicago, Ill.
St. Mary's College, St. Mary's, Kansas.
Marquette College, Milwaukee, Wis.
Creighton College, Omaha, Neb.
Detroit College, Detroit, Mich.

At different times our students have distinguished themselves, taking not merely honorable places, but on occasions the very first place in Latin and English.

This year we are happy to announce that Detroit College carried off the first prize in both Intercollegiate Contests.

Henry A. Roehrig won the gold medal for the best rendering of an English passage into classical Latin; and William F. Connolly received the first prize of $75 for the best English essay on the subject—"Literature an Index of a Nation's Life." In other words the students of Detroit College carried off everything in sight, in a contest between seven different Colleges, in as many different States.

REV. M. P. DOWLING,
President.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The undersigned, appointed by your predecessor as visitors to inspect and report on Detroit College, beg leave to report that they made the required visitation on April 19.

We found some three hundred students and a well appointed Faculty quietly, but zealously and efficiently, pursuing studies and teaching in the well known college building on Jefferson avenue, Detroit. The college is open to criticism, if at all, in respect to studies rather than in respect to instruction and discipline. The critic who looks at education from the so-called modern standpoint will not fail to note the subordination of the sciences to the Greek and Latin classes and the mathematics. As is well known, the Society of Jesus still believes that the humanities rank first as agents of mental cultivation, and still adheres, as closely as the circumstances of time and country will permit, to the *Ratio Studiorum.* A competent judge who accepts the curriculum is not likely to find fault with the methods of instruction pursued or the results attained by the college. The boys are put at their Latin at an early age; they are patiently drilled in the rudiments of the language; they read a sufficient amount of literature to become well acquainted with its scope and nature, while the language itself is used in the class-room in conducting the recitations. Similar thoroughness marks the instruction in Greek and in mathematics. Rhetoric and philosophy receive due attention. In this school, and in others like it, it is, no doubt, that the classical tradition is now best preserved, at least in this country.

The library is insufficient for a school of this grade in two particulars. The books are too few, and they are mainly by the old or older authors. The collection lacks the modern quality. Insufficiency of funds, we understand, is the explanation. Friends of the college could hardly render it a better service than to present it with a few thousand volumes of well selected books.

Suitable attention is paid to physical exercise. The college is furnished with a gymnasium and play-ground furnished with necessary appliances. The discipline of the school and the manners of the pupils deserve much commendation.

It gives us much pleasure to speak of the courtesy with which the

Williams answered all questions and explained the workings of the school. We close with remarking that scholars engaged in the State educational service could hardly visit a more interesting school than this or some similarly organized and conducted college.

Very respectfully,

B. H. HINSDALE,
M. J. CAVANAUGH.

DETROIT HOME AND DAY SCHOOL.

REPORT OF PRINCIPAL.

HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—Outside of the statistics, which vary but slightly from year to year and really indicate very little save that the school is self supporting and holding its own, we feel that we can estimate growth and gains practically in the increasing number of pupils that come from all sections for college preparation.

CORPORATORS.

D. Whitney, jr., Mrs. N. C. Avery, Chas. Stinchfield, H. K. White, Mrs. Helen L. Frue, Geo. Peck, Mrs. H. J. Caulkins, Cl. '84, *Wm. Thaw, Pittsburgh, Penn. *J. S. Farrand, D. M. Ferry, Jas. McMillan, Ashley Pond, S. J. Murphy, Mrs. L. R. Medbury, Alanson Sheley, Mrs. H. H. Wood, Birmingham, Conn.

BOARD OF TRUSTEES.

D. M. Ferry, President; David Whitney, Vice-President: George Peck, Treasurer; James D. Liggett, Secretary. Mrs. N. C. Avery, Hon. James McMillan, H. K. White, S. J. Murphy.

FACULTY 1891-92.

Ella M. Liggett, A. B., Principal, English Literature.
Jeannette M. Liggett, Associate Principal, Primary Department.
Emma Carhartt, History, Mythology.
Katherine Flynn, Geography, Spelling, Penmanship.
Marienne Bary, Latin, Greek, Geometry.
Christine L. Voigt, Ph. B., German, Arithmetic, Natural Sciences.
Florence A. Brown, Kindergarten.
Fannie G. Kahn, Ph. B., French, Algebra.
Jane A. Perine, Elementary English, Assistant in the Primary Department.
Harriet N. Leonard, Drawing and Painting.
Anna C. Hinman, Assistant in the Kindergarten.

* Deceased.

Ida F. Smith, English, History of Art and Architecture, News Classes.
Susan J. Corey, Music.
*Sarah M. Cumming, Principal's Assistant in the School Family.
Sarah P. Haven, Successor to the Above.
Florence F. Hawkins, Delsarte, Voice Culture.

THE DETROIT HOME AND DAY SCHOOL.

This institution was organized in 1878 by Rev. J. D. Liggett and his daughters, and was conducted as a private enterprise until it demanded accommodations larger and better than could be obtained. To meet this need, in the fall of 1882, a number of persons united in the incorporation of the Detroit Home and Day School.

Work on a building began the following spring, and the School took possession of its new home January 7, 1884.

The location is in the heart of a healthful and beautiful portion of the city, and is accessible by the street car lines of Woodward and Cass Avenues.

The building is heated by steam, and special attention has been paid to ventilation and lighting. All the rooms in which pupils are seated for study have a sunny exposure.

From the assembly rooms classes are sent out to recitation rooms, where large, comfortable chairs, entire change of surroundings, and the influence of different teachers, all afford rest and variety.

Symmathetean Hall, seating about two hundred persons, and fitted up with a stage, lights, and curtain, is used for the opening exercises of the school, for lectures, musical recitals, and the meetings of the School Literary Society.

The reference library, of encyclopedias, dictionaries, books of travel and biography, and others essential to a practical knowledge of history and literature, is steadily growing more valuable.

Every year renewed effort has been made to increase all facilities and bring the methods of instruction up to the demands of the times. Special attention is given to preparation for college; and, upon its certificate of such preparation, students are admitted without examination to Vassar and Wellesley Colleges. To those who do not expect to go to college, it offers thorough training in all of the elementary branches, a systematic and extended course of history and literature, and as much instruction in the languages, mathematics, and natural sciences as is possible in the time, while it aims to give to all of its pupils a development of mind and character that shall fit them for useful and successful lives.

COURSE OF STUDY.

The course of study extends over a period of twelve years, not including the Kindergarten course.

It offers liberal and thorough training in all the elementary branches, a systematic and extended course of history, reading, and literature, and as much instruction in the ancient and modern languages, the higher mathematics, and the natural sciences as is possible in so limited a time.

The classical course is arranged with reference to preparation for college

* Resigned Dec. 18, 1891.

Each pupil is carefully graded and only allowed to pass from one grade to the next higher upon reaching the approved standard.

HOME DEPARTMENT.

Young ladies desiring to enter the School family will find a generous and well ordered home and careful oversight of their comfort, health, and improvement. While restrictions will be imposed only to this end, it is most essential that all should be ready to give a cheerful compliance to the general requirements, such as the regulations of the household in regard to the hours of study, rising and retiring, open-air exercise, and the reception of visitors.

Regular hours are devoted to study in the afternoon under supervision.

A portion of each evening is devoted to the reading of some enjoyable book, affording an opportunity at the same time for sewing or fancy work.

BOYS' DEPARTMENT.

Boys are received as pupils in the Day School in the two lowest departments, and their work is so planned that they can pass into the Fifth Grade of the city schools, or into corresponding classes elsewhere.

PRIMARY DEPARTMENT.

The Primary Department is carried on in a large, airy, and sunny room, affording space for that freedom which is almost as essential here as in the kindergarten. Instruction in singing, calisthenics, and French are features of its work.

THE KINDERGARTEN.

This department of the school, opened in October, 1886, is under the charge of a thoroughly trained and experienced Kindergartner, and is fully equipped with all the appliances essential to the system. It is conducted in a pleasant room on the first floor, offering the advantage of a convenient entrance at 75 Stimson Place, opening into a roomy hallway and cloak room and having exits to the lavatories and also to a rear yard where the children have a sand-table and opportunity for out-door games, while secluded from the street.

THE LUNCH ROOM.

This feature of the School has been in successful operation for four years, and, in providing a simple and wholesome luncheon, pleasantly served, at moderate prices, has met an obvious need of students living at a distance from the school.

Students who bring their luncheon with them also eat it in the lunch room.

The lady in charge acts as hostess from 10:30 to 12 o'clock. Cards of permission are issued by the director of the study hall—a limited number at a time.

ENROLLMENT.

1891-92.

Collegiate Department	67
Preparatory Department	21
Primary Department	35
Kindergarten Department	36
Alumnæ Class	25
	184
Home Department	26

EXPENSES.

PER TERM---ONE-HALF YEAR.

Tuition in Kindergarten	$25 00
" Primary Department	25 00
Preparatory Department	40 00
Collegiate Department	50 00
Stationery, Preparatory Department (with spelling)	50
" Collegiate	25
Music	50 00

HOME DEPARTMENT.

PER TERM---ONE-HALF YEAR.

Board and Tuition	$300 00
Pew rent	3 00
Washing (more than allowance), per dozen	75
Meals served in room, each	25

JAMES D. LIGGETT,
Principal.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—Your committee of State visitors appointed to visit the Detroit Home and Day School begs leave to submit the following:

1. Situation—In an ideally quiet and beautiful location just off Woodward avenue, the school possesses every advantage of position. The building is large, airy, and well suited to the needs of the school. Everywhere was apparent a neatness and good order, strongly suggestive of home life.

2. Equipment—As has been noted the building is substantial, roomy, and well adapted to its uses. The library is good and constantly receives additions that are very valuable to the work of the school. The usual equipments of the school room are provided in abundance, but the total lack of laboratories and laboratory appliances was very noticeable. Few pupils are taking science work, but some provision ought to be made for these, and a large proportion of the school should be brought into touch

with the splendid discipline and culture of science work through at least a moderate laboratory equipment.

3. Courses of Study—In the school are pupils of all grades from the kindergarten to the class just ready for college. During the first four years both boys and girls are admitted, while after that grade girls only are received. The courses offered are substantially similar to those in like schools. They are, we think open to criticism for their slight attention to the natural sciences. So far as we observed no systematic elementary science work was given until the last two years, and but little then. We understand, however, that preparations are making to give greater attention to science work. On the side of language, literature, history, and art, the courses are strong and practical.

4. Instruction—Beginning with the kindergarten and continuing through every year, the instruction was enthusiastic and awakened the interest of all. In the kindergarten the children were made happy and free by a teacher who is especially earnest and absorbed in her work, taking as sincere pleasure in the songs and games as the children themselves. Geography and history are connected intimately with each other and with the life of today. Classes in travel and current events were doing most excellent and appreciative work. In French and German the grasp of the genius of those languages was excellent. There was throughout the school a lively interest and satisfaction in the work that made it evident that pupils were lead not driven. On the whole the committeee thought the path to learning was made somewhat less rugged than is consistent with the strongest intellectual training. Culture and culture-studies are very prominent, and results in that direction are good.

5. Home Life—This feature of the Home and Day School so far as we could observe was ideal. The pupils were brought into an atmosphere of home life and influence that could scarcely be improved on outside of their own homes.

In conclusion, the committee feel that the eagerness and interest in study found in the school, together with a little more of the satisfaction derived from hard work and toilsome wrestling with the knotty problems of study, cannot fail to develop young women of such culture and intellectual strength as shall be an abundant reward to the able and faithful corps of instructors, and a blessing to society.

Most respectfully submitted,

E. C. GODDARD,
E. C. PIERCE,
MRS. ALBERT JENNINGS.

EVELYN INDUSTRIAL INSTITUTE FOR GIRLS.

REPORT OF SUPERINTENDENT.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—Our school is located one and one-half miles south of the city of Manistee, about one mile from Lake Michigan, and its aim is to furnish protection, a good education, industrial training, and Christian culture to helpless girls who are not provided for by the State. It numbers at present thirty pupils, who are cared for in every respect by the instituton.

The school, that is the literary part of it, graduates girls who are able to obtain a third grade teacher's certificate. Mrs. L. C. Campbell is the regular teacher; Mrs. N. McLeod teaches singing; Miss Emma Wilson instructs in instrumental music.

COURSE OF STUDY.

The industrial department has three distinct branches:

1. Household, dairy, and laundry;
2. Sewing and dressmaking;
3. Gardening.

The work is so systematized and graded as to secure to each pupil a good knowledge of the branches. Four years are required to complete the course. Each industrial year is divided into four terms of three months each, of which one is spent in chamber work; the second in dining room work; third, kitchen work; fourth, laundry; each in four grades. Recently a department of dressmaking has been opened, in which pupils who are skilled in needle work are taught the trade.

All ordinary household work is completed at 11:45 a. m. The sewing room work alternates with the garden work. Pupils are expected to work from one to two hours daily in the garden as long as such work is practicable. Vegetables, fruit, and flowers are raised by the pupils. Each pupil older than twelve years has a room by herself. Teachers and pupils take their meals together.

SCHOLARSHIPS.

About one-half of our pupils are our wards; the others are with us on scholarships which secure their full support. Five hundred dollars secures a perpetual scholarship.

ENDOWMENT.

We have no endowment other than the proceeds of the farm and a small revenue accruing from the rent of a house in town, of which, however, we do not yet have a deed. The school is mainly supported by the gifts of friends.

Shares of stock taken, 85 at $100.

Shares of stock paid in, $4,200.

NAMES OF INSTRUCTORS NOW ENGAGED.

Emma Obenauer, Superintendent, Teacher of Bible History.

Mrs. R. A. Derrick, Matron, Teacher of Household work.

Mrs. L. C. Campbell, Teacher of English branches.

Mrs. D. McLeod, Teacher of Singing.

Mrs. Laura Clark, Sewing and Dressmaking.

The garden work is superintended by the farmer who does the heavier work.

LIST OF SCHOOL BOOKS USED.

Harper's Arithmetics; Harper's Geographies, intermediate and primary; Pathfinder's Series, Physiology and Hygiene; Historical Readers, (M. L. Pratt); Young Folks' History of the United States; Appleton's Readers: Swinton's Language Lessons; Swinton's Grammar.

SUPPLEMENTARY REPORT.

This being an institution existing and growing for seven years without State, county, or other appropriations, by the gifts of persons who through this school offer to friendless and unprotected girls opportunities to make the best of themselves, the statistical blank is not entirely adapted to show our financial condition. Most of our pupils are poor, some of them orphans. Others would be better off *if they were* orphans. None of them are with us because they have committed misdemeanors, but almost every one was in dangerous or at least unfavorable surroundings.

Incorporated under §167 Howells' Annotated Statutes, the Institute becomes the guardian of the pupils as soon as they are properly entered. We have, so far, pupils from the following counties: Manistee, Mason, Mecosta, Wexford, Osceola, Otsego, Kent, Huron, and Saginaw. In most of these counties exist chartered branch organizations of Evelyn Institute, whose object is to prevent poor, unprotected girls from vicious associations and consequent degradation. They own stock in this school, and the payment of $500 gives them a perpetual scholarship. Three perpetual scholarships, $1,500 worth of stock, entitle an association to one member on the parent association, which meets annually in the city of Manistee to elect the board of trustees and transact other important business.

The instruction of the pupils is intended to make them self-supporting,

self-respecting, healthy, Christian women. The morning hours, from 7 to 10 for the younger pupils, and from 7 to 11:30 for the older, are industrial hours, when they are employed in one of the twelve departments of household, sewing, and garden work, which cover a large variety of occupations from the care of poultry and dairy work to dressmaking and fine ornamental work. School hours are from 10 to 11:30 a. m., from 1:30 to 4:30 p. m., and from 7:30 to 8:30 p. m.

The music class (piano) consisted this year of 7 pupils who received one lesson per week and, during this year, have acquired skill enough to accompany our singing and play marches, etc. The course devised by the State Superintendent for district schools has been adopted as the requirements for graduating. Girls who cannot reach these may be dismissed on industrial certificate. Ten of our former pupils are married and in homes of their own, while many are earning an honorable support in different parts of the State.

Respectfully submitted,

EMMA OBENAUER,
Superintendent.

GERMAN AMERICAN SEMINARY.

REPORT OF PRINCIPAL.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—I beg herewith to submit my annual report as principal of the German American Seminary, Detroit.

The studies in our school are of an elementary character, designed for children from 6 to 14.

I. Branches taught in the Day School—1. English branches: Reading, Barnes' Readers; Writing (Penmanship), Krone's spec.; Arithmetic, Robinson's Course; Grammar, Sill's; Geography, Appleton's; United States History; Composition; Drawing, Krone's; Elements of Book-keeping, Nichols; Singing. 2. German branches: Reading, Reffelt and Peterman's series; Writing, Krone's; Grammar; Natural Philosophy; General History.

In the day school we lost 55 pupils after introduction of the "free book system" in our Detroit public schools in September, 1892.

II. In the Saturday School—Branches: German Reading and Writing, translation (only for pupils attending our public schools).

III. In the Sunday School—Branches: Singing, Literature, physical and chemical experiments, Turning.

IV. In the Kindergarten—Branches: slats, drawing, games, marching, sticks, rings, perforating, building, tablets, folding, weaving, etc.

G. HERRMANN,
Principal.

HILLSDALE COLLEGE.

REPORT OF PRESIDENT.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

SIR--Hillsdale College has closed a prosperous year. Its endowment fund has been increased by $25,000 during the year ending June 1, 1893. It has had a good attendance of students. The change in its courses of study, which allows the student greater freedom of selection after the sophomore year, meets with high favor. Its various departments are presided over by competent instructors, and their methods of teaching are modern and popular. A feature of the past year has been a course of lectures, open to all the students, in addition to the regular class room lectures, by persons prominent in commercial, professional, and business life. Such topics as Railways, New Educational Problems, Hygiene, Aims in Life, etc., have been presented in this course during the year. The college is carefully noting the nature and tendency of modern educational movements, and aims to adopt and apply the most approved, so that young people contemplating an education may confidently seek it at this oldest of the Christian colleges in Michigan.

At the last meeting of the Trustees, in June, 1893, two women were elected to the Board--a fitting recognition of the prominence of women in all educational and reform movements at the present time.

GEO. F. MOSHER,
President.

THEOLOGICAL SCHOOL OF THE HOLLAND CHRISTIAN REFORMED CHURCH.

REPORT OF RECTOR.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—I have the honor to report the condition of our Theological School at Grand Rapids, Mich., as follows:

1. Names and Residences of Trustees:

Rev. J. H. Vos, 48 Spring street, Grand Rapids, Mich.
Rev. L. J. Hulst, LaGrand street, Grand Rapids, Mich.
Rev. R. T. Kuiper, South Holland, Illinois.
Rev. J. Noordewier, Grand Rapids, Mich.
Rev. J. Post, Kalamazoo, Mich.
Rev. E. Bos, Luctor, Kansas.

2. Names of Professors:

Rev. G. E. Boer, 124 Lagrave street, Grand Rapids, Mich.
Rev. G. Hemkes, 274 Cass avenue, Grand Rapids, Mich.
Mr. G. Berkhof, Eleventh street, Grand Rapids, Mich., Tutor.

3. The school is situated at Grand Rapids, Kent county, Mich., at corner of Fifth and Madison avenues.

4. The number of students is 48.

5. The number of teachers is three, namely, two professors and one tutor for temporary assistance.

6. The annual salary of each teacher except the tutor is $1,300.

7. The number of books in the library is 700.

8. The amount of available capital on hand is $2,400.

The Theological School was established March 15, 1876, at Grand Rapids, Mich.

As first professor was called Rev. G. E. Boer, then minister of the Gospel in the congregation of Spring street church at Grand Rapids, Mich. After he accepted the call and after his installation, he commenced his instruction in that school with five students. Professor G. E. Boer was the only instructor up to 1884. Then the Synod called Rev. G. Hemkes, then minister of the Gospel at Vriesland, Mich. As he had accepted the call, Rev. G. Hemkes came to the school September 1, 1884.

Dr. G. Vos was called last year from the seminary at Princeton and accepted that call. He left our school September last.

We intend to call one or two professors more at our next Synod.

Rev. G. E. Boer is Rector of the school now.

Mr. G. Berkhof is Proctor of the school.

Rev. G. E. Boer is Bibliothecaris of the library.

Mr. J. Brink is assistant Bibliothecaris.

The courses of the school is seven years; four years in the Literary Department and three years in the Theological Department.

The number of our Theological students is 13 and that of the Literary Department 36.

G. E. BOER,
Rector.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *State Superintendent of Public Instruction:*

DEAR SIR.—The Holland Christian Reform Seminary was established at Grand Rapids, Michigan, in 1876, with one professor.

The Faculty now numbers four:

Professor, G. K. Hemkes, Rector.
Professor, G. E. Boer.
Professor, G. Vos, Ph. D.
Tutor, G. Berkhof.

The school year corresponds to that of other educational institutions in the State, extending from September to June.

Four years ago the course was six years; now it is seven. Formerly there were only two examinations, one after four years of literary work, and one after two years of theological work; now there are six examinations. The first, after two years of study, is upon geography, Greek, Roman and northern mythology, Greek and Roman antiquities. The second, after two years of study, is upon rhetoric, history of the United States, history of Holland. The third, after four years of study, and at the close of the literary work, is upon logic, psychology, history of philosophy, general history, Holland, English, German, Latin, Greek, and Hebrew.

In the Theological Department, after one year of work the examination includes Hebrew, antiquities, Biblical geography, Biblical history, general history of religions, history of dogmatics, symbolics.

At the close of the second year the examination would include Hermeneutics, natural theology, introduction to the dogmatics, homiletics.

At the close of the theological course the examination covers dogmatics, church history, textual criticism of the Old and New Testaments, church government, catechetics, liturgics, introduction to the Old and New Testaments, ethics.

The Holland Christian Reform church was organized in 1857 by the separation of three congregations from the (Dutch) Reform church. Armenianism and secret societies were questions which brought about the schism.

The present number of congregations of this denomination is 107; classes 7; ministers 65; families 8,665; members 13,119; souls 53,537.

When it is considered that the population of Grand Rapids alone includes from 15,000 to 25,000 Hollanders, the importance of such an institution in this part of the State becomes apparent.

In 1892 there was erected, at an expense of $25,000, a fine two and a half story brick building. This is situated at the corner of Madison and Fifth avenues, Grand Rapids.

The attendance this year is something over fifty.

The institution is virtually a theological seminary. But recognizing the fact that many of the young men who attend have had little or no literary advantage, there is a literary course of four years, including such studies taught in our high schools and colleges as seem most essential to theological work.

When we remember that more than one-half of the young men (the seminary is not co-educational) are native-born Hollanders, we do not wonder that such a study as United States history should not be as real to them as to the average American.

The work in language, history, and theology is excellent and gives evidence of thoroughness on the part of the instructors, and application on the part of the student.

Dr. Vos, one of the professors, is of national celebrity and has recently declined a professorship at Princeton, N. J., Theological Seminary, preferring to labor in the interest of his own seminary at Grand Rapids.

GEO. J. EDGCUMBE,
A. E. CURTIS,

HOPE COLLEGE.

REPORT OF PRESIDENT.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—I herewith present the annual report of Hope College for the academic year from June, 1892, to June, 1893.

The corporation of the College is vested in The Council, consisting of the following members:

THE COUNCIL.

Ex Officio.

Rev. Chas. Scott, D. D., President of the College.

ELECTED MEMBERS.

From General Synod.

Names	Residences.	Terms Expire.
J. C. Benham, M. D.,	Hudson, N. Y.	1893
Rev. Cornelius Brett, D. D.,	Jersey City, N. J.	1894
Rev. G. H. Mandeville, D. D.,	New York City, N. Y.	1895
Rev. Jas. F. Zwemer,	Orange City, Ia.	1896
Rev. Peter Moerdyke, D, D.,	Chicago, Ill.	1896
Hon. Isaac Cappon,	Holland City, Mich.	1897
Hon. Arend Visscher,	Holland City, Mich.	1898

From Classis of Wisconsin.

Rev. John Broek,	Milwaukee, Wis.	1893
Rev. Balster Van Ess,	Roseland, Ill.	1893

From Classis of Michigan.

Rev. Samuel Streng,	Kalamazoo, Mich.	1894
Jas. Van der Sluys,	Grand Rapids, Mich.	1894

From Classis of Grand River.

*Rev. Wm. Moerdyke,	Muskegon, Mich.	1895
Rev. Dirk Broek,	Grandville, Mich.	1895

* Removed from Classis; successor not yet appointed.

From Classis of Holland.

Rev. Gerhard De Jonge,.....Vriesland, Mich. 1896
Rev. Henry E. Dosker, ...Holland City, Mich..... 1896

From Classis of Dakota.

Rev. John A. De Spelder,.....Orange City, Ia..... 1896
Rev. S. J. Harmeling, ...Marion, S. D..... 1896

From Classis of Iowa.

Rev. P. Lepeltak, ...Alton, Ia..... 1897
Rev. James De Pree, ...Sioux Centre, Ia..... 1897

From Classis of Illinois.

Rev. J. S. Joralmon,.....Norwood Park Ill..... 1898
Francis J. Cushing, ...Irving Park, Ill..... 1898

OFFICERS OF COUNCIL.

Rev. W. Moerdyke, President; Rev. B. Van Ess, Vice President; Rev. Henry E. Dosker, Secretary; Hon. Isaac Cappon, Treasurer.

COMMITTEES OF COUNCIL.

Executive Committee—Pres. Chas. Scott, Chairman; Hon. Arend Visscher, Sec'y; Rev. W. Moerdyke, Rev. Henry. E. Dosker, Rev. Gerhard De Jonge.

(In charge of the funds of the Council.)

Investment Committee—Hon. Arend Visscher, Pres. Chas. Scott, Hon. Isaac Cappon.

Hope Farm Committee—Pres. Chas. Scott, Hon. Isaac Cappon, Hon. Arend Visscher.

"DE HOPE."

Mr. R. Kanters, Publisher.

Editorial Committee—Prof. C. Doesburg, Rev. N. M. Steffens, D. D., Rev. J. Van Houte.

COLLEGE DEPARTMENT.

FACULTY.

Rev. Chas. Scott, D. D., President, Professor of Chemistry and Natural History. In charge of Mental, Moral, and Christian Philosophy.

(Resigned the Presidency Sept. 1, 1892. By request of Council continues to act until a successor may be secured.)

Cornelis Doesburg, A. M., Secretary, Professor of Modern Languages and Literature. In charge of Art Studies.

Gerrit J. Kollen, A. M., Professor of Applied Mathematics, Physics, and Political Economy. In charge of Logic.

Henry Boers, A. M., Professor of the English Language, Literature, and Rhetoric.

John H. Kleinheksel, A. M., Professor of Mathematics.

James G. Zutphen, A. M., Professor of the Latin Language and Literature.

Rev. John H. Gillespie, A. M., Professor of the Greek Language and Literature. In charge of Sacred Literature.

NUMBER OF STUDENTS.

Seniors	13
Juniors	5
Sophomores	15
Freshmen	21
Specials	3
Total	57

ADMISSION.

For admission into the Freshman Class, a full certificate of graduation from the Grammar School Department is required, or an examination of the studies pursued in that department, or in what the Faculty shall deem an equivalent.

In order to enter any advanced class of the institution, it will be necessary for the applicant to pass an examination in the studies previously pursued by the class. If received on conditions, these must be fulfilled before regular admission.

COURSE OF STUDY.

FRESHMAN YEAR.

MATHEMATICS.—Wentworth's Solid Geometry, and Plane and Spherical Trigonometry.

LANGUAGE: *English*—Hawthorne's and Lemmon's American Literature; Shaw's New History of English Literature; Study of English Classics. *Latin*—Cape's Livy; Virgil; Composition; Mythology. *Greek*—Stevens' Lysias; Dyer's Apology and Crito; Herodotus; Allison's Greek Prose Composition. *Modern*.—History of Dutch Literature; Essays and Translations.

RHETORIC.—Essays; Subjects outlined; Drill in Elocution.

HISTORY.—Anderson's Roman History; Myer's Ancient History; An Atlas of Classical and Mediæval Geography.

NATURAL SCIENCE.—Cutter's Comprehensive Physiology; Packard's Zoölogy.

SACRED LITERATURE.—Greek New Testament and Introduction.

SOPHOMORE YEAR.

MATHEMATICS.—College Algebra; Hardy's Analytic Geometry; Wentworth's Surveying and Navigation.

LANGUAGE: *English*—English Literature and study of English Classics continued. *Latin*—Page's Horace; Hardy's Juvenal; Kelsey's Cicero's De Amicitia, De Senectute; Antiquities and Literature. *Greek*—Seymour's Homer's Iliad; Tarbell's Demosthenes' Philippics; Thucydides; Allinson's Greek Prose Composition completed. *Modern*—Edgren's French Grammar; some French Author.

RHETORIC.—Essays, Debates, Orations.

HISTORY.—Mediæval and Modern History.

NATURAL SCIENCE.—Remsen's Chemistry.

SACRED LITERATURE.—Greek New Testament and Harmony of the Gospels.

JUNIOR YEAR.

MATHEMATICS.—Hardy's Calculus.
MATHEMATICS APPLIED.—Olmsted's Natural Philosophy.
LANGUAGE: *Latin*—Stickney's Cicero's De Officiis; Sloman's Terence; Seneca's Moral Essays. *Greek*—Odyssey or Lyric Poets; Humphreys' Aristophanes' Clouds; Allen's Prometheus of Aeschylus; Literature. *Modern*—Joyne's Meissner's German Grammar; some easy German Author.
RHETORIC.—Bascom's Philosophy of Rhetoric; American Literature; Essays, Discussions, and Orations.
HISTORY.—Studies in History; Lectures on the Constitution and History of the United States.
NATURAL SCIENCE.—Chemistry, one term; Wood's Botany, two terms; Sedgwick and Wilson's Biology.
METAPHYSICS.—Porter's Elements of Intellectual Science.
SACRED LITERATURE.—Butler's Analogy.

SENIOR YEAR.

MATHEMATICS.—Newcomb and Holden's Astronomy, advanced course.
LANGUAGE: *Greek*—Plato's Phaedo and Republic. *Modern*—Some German Author; German Literature; Composition in German.
RHETORIC.—Continued.
LOGIC.—McCosh.
ETHICS.—Wayland's Moral Science.
HISTORY.—Guizot's History of Civilization.
NATURAL SCIENCE.—Dana's Class Book of Geology.
POLITICAL SCIENCE.—Walker's Political Economy, advanced course; Essays on the same.
SACRED LITERATURE.—Lectures on Evidences of Christianity.

SCHEDULE OF COLLEGE RECITATIONS.

8:15 to 9 a. m.

Day.	Freshmen.	Sophomores.	Juniors.	Seniors.
Monday	Latin 1	Surveying	Botany 8	German.
Tuesday	Latin	Mathematics 2	Butler's Analogy	History of Civ.
Wednesday	Latin	Surveying	Moral Philosophy	Mental Philosophy.
Thursday	Latin	Mathematics	Lectures 4	Lectures 5.
Friday	Latin	Mathematics	Moral Philosophy	Mental Philosophy.

9 to 9:45 a. m.

Day.	Freshmen.	Sophomores.	Juniors.	Seniors.
Monday	American Literat. 6	Greek	German	Geology.
Tuesday	Zoölogy	English Literature.	Greek	
Wednesday	American Literat.	Greek	German	Geology.
Thursday	Zoölogy	English Literature.	Greek	
Friday	Rhetoricals	Greek	German	Geology.

9:45 to 10:30 a. m.

Day.	Freshmen.	Sophomores.	Juniors.	Seniors.
Monday	Sacred Literature	French	Physics	
Tuesday	Greek	Modern History	Rhetoric 7	Logic.
Wednesday	Greek	Chemistry	Physics	German.
Thursday	Greek	Modern History	Rhetoric	Logic.
Friday	Greek	Chemistry	Physics	German.

10:30 to 11:15 a. m.

Day.	Freshmen.	Sophomores.	Juniors.	Seniors.
Monday	Mathematics 8	Chemistry	Latin	Greek.
Tuesday	French	Sacred Literature	Calculus	Political Economy.
Wednesday	Mathematics	French	Botany	Greek.
Thursday	French	Greek	Calculus	Political Economy.
Friday	Mathematics	French	Greek	Logic.

11:15 to 12 m.

Day.	Freshmen.	Sophomores.	Juniors.	Seniors.
Monday	Ancient History 9	Latin	Rhetoricals	Astronomy.
Tuesday	Music	Engineering	Latin	Rhetorical Ex.
Wednesday	Ancient History	Rhetoricals	Latin	Astronomy.
Thursday	Mathematics	Latin	Physics	Greek.
Friday	Dutch 10	Latin	Botany	Astronomy.

1—Includes Roman History and Antiquities.
2—Embraces Algebra, 1st term, Analytical Geometry, 2d and 3d terms.
3—Biology, during the 2d term.
4—On the United States Constitution.
5—On the Evidences of Christianity.
6—English Literature, 3d term.
7—American Literature, last 12 weeks.
8—Solid Geometry and Mensuration, 1st term; Plane Trigonometry, 2d term; Spherical Trigonometry, 3d term.
9—Includes Ancient Geography.
10—Studies in Dutch Literature.

GRAMMAR SCHOOL DEPARTMENT.

FACULTY.

Prof. Charles Scott, D. D., President, Religious Instruction in the "A" and "B" Classes.

Prof. Cornelis Doesburg, A. M., Modern Languages, Drawing and Painting.

Prof. Gerrit J. Kollen, A. M., Physics, Didactics, and Religious Instruction in the "C" and "D" Classes.

Prof. Henry Boers, A. M., Rhetoric and History.

Prof. John H. Kleinheksel, A. M., Mathematics and Botany.

Prof. James G. Sutphen, A. M., Secretary, Latin.

Prof. John H. Gillespie, A. M., Greek.

John B. Nykerk, A. M., Prof. of Music, Assistant Prof. of English.

Mrs. C. VanRaalte-Gilmore, Lady Principal.

Prof. James W. Humphrey, Director of the Summer School.

Prof. Gerrit J. Kollen, Librarian.

Wm. O. Van Eyk, Harm Dijkhuizen, Assistant Librarians.

Gerrit Tijse, Chorister.

Herman J. Broek, Organist.

Bernard Bloemendaal, Janitor.

NUMBER OF STUDENTS.

"A" Class	21
"B" Class	41
"C" Class	40
"D" Class	36
Unclassified	8
Summer Normal	53
Total	199

ADMISSION.

For admission into the "D" Class, a common school education is required in the branches pursued in that year. The better their previous training, the more easily and profitably can pupils enter upon the Grammar School Course.

In order to enter any advanced class, it will be necessary for the applicant to pass an examination in the studies previously pursued by the class. If received on conditions, these must be fulfilled before regular admission.

The Normal Department is open to all who present evidence of sufficient preparation. Members having selected studies and classes, are expected to comply with the scholastic regulations of the Institution.

COURSE OF STUDY.

FIRST YEAR, "D" CLASS.

READING, ETC.—Monroe's Fifth Reader; Orthography—Reed's Word Lessons.
PENMANSHIP.—Spencerian System.
GEOGRAPHY.—Harper's School Geography, *Michigan Edition.*
MATHEMATICS.—Olney's Practical Arithmetic.
LANGUAGE.—*English.*—Southworth and Goddard's Elements of Composition and Grammar; Written Essays through the year.
HISTORY.—Montgomery's Leading Facts of American History.

SECOND YEAR, "C" CLASS.

READING, ETC.—Choice Selections from English Classics; Orthography, Orthoepy and Diacritical Marks.
PENMANSHIP.—Spencerian System.
NATURAL SCIENCE.—Eclectic Physical Geography.
MATHEMATICS.—Harper's Advanced Arithmetic; Sprague's Rapid Addition.
BOOKKEEPING.—Mayhew's Practical Bookkeeping.
LANGUAGE.—*English.*—Whitney's Essentials of English Grammar; Essays and Declamations. *Latin.*—Gradatim; Ginn & Co.'s Cæsar, *New Edition;* Allen and Greenough's Latin Grammar; Composition. *Dutch.*—Reading; Spelling; Translations. *French.*—Edgren's French Grammar. (*Elective for Latin.*)

THIRD YEAR, "B" CLASS.

READING.—Choice selections.
DRAWING.—Free Hand and Perspective.
MATHEMATICS.—Wentworth's School Algebra; Steele's Astronomy, with the use of Globes.
LANGUAGE. *English.*—Grammar continued; Hart's Rhetoric begun; Essays. *Latin*—Cæsar; Ginn & Co.'s Cicero; Grammar and Composition. *Greek.*—Frost's Primer; Moss' First Reader; Hadley-Allen Grammar. *Dutch.*—Kat's Grammar; Exercises; Translations. *French.*—Edgren's French Grammar. (*Elective for Latin*). *German.*—Joynes' Meissner's German Grammar; Joynes' German Reader. (*Elective or Greek.*)
ELOCUTION.—Emerson's Evolution of Expression, Vols. I and II. Emerson's Physical and Aesthetic Culture.
HISTORY.—Smith's Greek History. (*Abridged*).

FOURTH YEAR "A" CLASS.

DRAWING.—Free Hand and Perspective.
MATHEMATICS.—Wentworth's School Algebra (*finished*); Wentworth's Plane Geometry.
NATURAL SCIENCE.—Peck's Ganot's Natural Philosophy, revised; Physiology and Hygiene.
LANGUAGE: *English.*—Sprague's Milton's Paradise Lost or some other Author; Hart's Rhetoric continued; Essays. The class publishes a monthly paper, called *The Excelsiora. Latin.*—Cicero; Kelsey's Ovid; Grammar and Composition. *Greek.*—Anabasis, Books I and II; Hellenica, Book II; Woodruff's Greek Prose Composition;

Hadley-Allen Grammar. *Dutch.*—Kat's Grammar, continued; Practical Exercises; Translations; Compositions. *French* and *German.*—Continued as Electives for Latin and Greek.

ELOCUTION.—Emerson's Evolution of Expression, Vols. III and IV; Physical and Aesthetic Culture, continued.

HISTORY.—Montgomery's Leading Facts of English History.

CIVIL GOVERNMENT.—Young's Government Class Book.

DIDACTICS.—White's Elements of Pedagogy.

RELIGIOUS INSTRUCTION AND MUSIC.—In all the Classes.

Special attention is given, during the whole of the preparatory course, to the grammars of the languages studied. For those who pursue English studies only, or who design stopping at the end of the "A" year, the Faculty provide such additional branches as seem most expedient and profitable. Those whose time is fully occupied in the work of the school, generally make better progress.

In general educational value, it is believed that the above four years' course of study is worthy of full recommendation, whether for entrance into College, or for a professional training, or for a business life.

The Schedule of Recitations is attached. This serves to show:

1. That the drill in the English branches is continued to the end of the four years course. Those who enter the "D" class should have some previous knowledge of arithmetic, grammar, and geography.
2. Beginning with the "C" year, Latin is studied almost daily, with about 500 recitations in all.
3. Beginning with the "B" year, and including Greek history, there are nearly 400 recitations in Greek.
4. As may be noticed, German or French and German, can be substituted for Greek. All who desire a good education should study Latin.
5. Those who take an English course only, select their studies, but not less than eighteen recitations per week are required, as shall be assigned by the Faculty.

SCHEDULE OF GRAMMAR SCHOOL RECITATIONS.

8:15 to 9:00 A. M.

Days.	D Class.	C Class.	B Class.	A Class.
Monday	Arithmetic	Physical Geography	Greek [1]	English. [2]
Tuesday	Orthography	Bible Study	Greek	English.
Wednesday	Arithmetic	Physical Geography	Greek	English.
Thursday	Bible Study	Orthography	Greek	English.
Friday	Orthography	Grammar	Greek	Art of Teaching.

9:00 to 9:45 A. M.

Days.	D Class.	C Class.	B Class.	A Class.
Monday	Reading	Arithmetic	Latin	Nat. Philosophy.
Tuesday	Arithmetic	Latin	Dutch [3]	Civil Government. [4]
Wednesday	Reading	Arithmetic	Latin	Nat. Philosophy.
Thursday	Arithmetic	Latin	Dutch	Civil Government.
Friday	Arithmetic	Arithmetic	Latin	Nat. Philosophy.

9:45 to 10:30 A. M.

Days.	D Class.	C Class.	B Class.	A Class.
Monday	American History	Latin	Rhetoric	Algebra. [5]
Tuesday	Grammar	Arithmetic	Latin	Dutch.
Wednesday	American History	Latin	Rhetoric	Algebra.
Thursday	Grammar	Arithmetic	Latin	Dutch.
Friday	American History	Latin	Grammar Anal.	Algebra.

10:30 to 11:15 A. M.

Days.	D Class.	C Class.	B Class.	A Class.
Monday	Grammar	Grammar	Astronomy	Drawing.
Tuesday	Penmanship	Reading 6	Greek History	Latin.
Wednesday	Grammar	Grammar	Astronomy	Latin.
Thursday	Penmanship	Reading	Greek History	Latin.
Friday	Composition	Rhetoricals	Bible Study	Latin.

11:15 to 12:00 M.

Days.	D Class.	C Class.	B Class.	A Class.
Monday	Geography	Bookkeeping	Algebra	Greek.
Tuesday	Music	Composition	Algebra	Greek.
Wednesday	Geography	Bookkeeping	Algebra	Greek.
Thursday	Geography	Dutch	Rhetoricals	English.
Friday	Geography	Dutch	Algebra	Greek.

1—German may be taken instead of Greek.
2—English in the "A" year includes: *a* Rhetoric, finished; *b* Analysis of "Paradise Lost" and "Lysidas;" *c* Preparation of the "Excelsiora;" *d* English History.
3—For those who use it at their homes.
4—Physiology during the third term.
5—Plane Geometry begins second term.
6—Orthography in connection.

NOTE 1.—Recitations in the afternoon whenever deemed necessary.
NOTE 2.—The Lady Principal meets all young ladies twice a week for such studies or exercises as she may select.

THE SUMMER NORMAL.

The studies, at this time, are designed to give an opportunity for a thorough review of the subjects required for "first, second, and third grade certificates" in Michigan, and for gaining such general information as will better fit teachers for their needed and noble profession.

The studies thus to be reviewed, with daily drill as to methods and principles, are:

Orthography, reading, and penmanship; geography, arithmetic, and grammar; United States history and civil government; bookkeeping, algebra, and geometry; physiology, botany, and philosophy; school law; science and art of teaching; question drawer and practical discussions.

Extra branches, such as music, crayon drawing, type-writing, and short-hand, may be pursued, when a sufficient number for a class desire such instruction.

Each subject will be treated after approved "normal" methods, with special reference to the needs of teachers in their district schools. Taking English grammar, for example, the programme will embrace a review of the parts of speech; parsing and diagraming; rules and forms, both oral and written; composition; and a careful analysis of the right use of the language.

Those desiring to enter the school will bring their ordinary text-books, as instruction will be mainly given by note and topic.

The library and apparatus of the college are free for the use of these classes.

The next summer school will be held for five weeks, beginning on July 9th, 1894. Arrangements have been made for competent instruction.

In 1892, the Rev. Dr. Charles Scott, on account of failing strength and increasing years, resigned his office as President, having served the College successfully for twelve years.

At the June meeting of Council, Gerrit J. Kollen, A. M., was elected President. Having been connected with the institution since 1871 as a member of its Faculty, he does not enter upon his new office as a stranger to the school.

During the new school year upon which we have entered, the Faculty has been enlarged by the election of Prof. D. B. Yntema to the chair of

Chemistry and Physics, and Prof. E. A. Whitenack to the chair of English Literature.

While the College will endeavor to maintain its fair reputation as a classical institution, effort will now be made to make it equally strong along the line of the natural sciences.

The outlook for Hope College is encouraging. We have a larger attendance this year than ever before; and the students are faithful in their studies and commendable in their deportment.

We lament the death of our beloved ex-President Scott. On the 31st of October last he was called to his eternal reward. In his death, the College has lost a broad scholar, a kind teacher, and an efficient administrator; the students, a dear friend and a wise counselor; and the Faculty, a loving brother, ever faithful and true.

Respectfully submitted,

GERRIT J. KOLLEN.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—As one of the Board of Visitors to Hope College, I have the honor of submitting the following report:

Owing to long continued illness I was unable to visit the institution before the close of the academic year, 1892. Upon learning that no visit at all had been made during the year, I concluded that a late examination was better than none and spent a day there.

It is not necessary to give statistics which will be furnished by the annual report of the President. It is necessary to say that Hope College is doing successfully what no other educational institution in the State could do. While almost exclusively limited in its work to the Dutch portion of our population, it is doing an essential work among them, as an American institution. Its Faculty virtually consists of men born or bred in this country. To the extent that Dutch is taught in its course, it is taught like other foreign tongues. The ecclesiastical connections of the College are with the Reformed Church in America, which, as the oldest Protestant Church in the United States, exerts through this medium a wholesome Americanizing influence upon this important portion of our citizens. The growth of the institution has been steady, if not rapid.

While the last year ended successfully with the graduation of one of the largest classes ever sent out, the new year has opened with larger promise. The effort to increase its endowment fund has been successful and the money will soon be available. The vacancy in the President's office, which existed for quite a period, has been filled by the election of G. I. Kollen, A. M., a graduate of the institution and for many years a member of its Faculty. He is thoroughly acquainted with the demands of the work, has proved himself in many ways a competent man of affairs, and good results may be confidently expected from his labors. The Faculty has been strengthened by the addition of two new instructors of experience and

reputation. The number of students has been materially increased this year.

A beginning has been made in providing suitable buildings, by the erection of a handsome stone building, combining fire-proof library, chapel, and lecture rooms, at a cost of $60,000. While much still remains to be provided, before the College can be called well-equipped, instruction in the essential branches of a classical education is excellent, and the discipline and moral tone are good. The people of the State are to be congratulated that so large a part of its immigrant population has so valuable an aid in fitting itself for use and influence in its adopted home. I take great pleasure in commending this institution to the favorable regard of our citizens.

Very respectfully,
C. VANDERVEEN.

KALAMAZOO COLLEGE.

REPORT OF PRESIDENT.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

MY DEAR SIR—I herewith submit the report of Kalamazoo College for 1892–93.

Entering upon my duties as President of this institution in the fall of '92, I found that the work of my predecessor, although cut short by seemingly untimely death, had been well done, and a most hopeful spirit prevailed. This feeling continued throughout the year. The number of students increased to two hundred thirty-one, fifty-five being members of college classes, the others belonging to the Preparatory or Musical Department.

By the expenditure of $1,500 the buildings and grounds were put into better condition and needed improvements made.

Our students are, for the most part, young men and women of limited means; but this fact tends only to awaken a greater desire for knowldge.

The outlook for the future of Kalamazoo College is full of hope, and the friends of the institution seem to be rallying to its support.

OFFICERS OF THE BOARD.

C. C. Bowen, Esq., President.
Rev. J. L. Cheney, Ph. D., Secretary.
J. E. Howard, Esq., Treasurer.
Chauncey Strong, Auditor.
W. G. Howard, Esq., Attorney.
S. J. Axtell, Steward.

STANDING COMMITTEES OF THE BOARD.

Executive Committee—C. C. Bowen, Esq., Chairman (*ex officio*); Chauncey Strong, A. M.; Wooster W. Beman, A. M.; Howard G. Coleman, A. M.; Samuel A. Gibson, Esq.; Daniel Putnam, A. M.; J. E. Howard, Esq. (*ex officio*).

Finance Committee—C. C. Bowen, Esq.; Schuyler Grant, A. M.; J. E. Howard, Esq.; Alanson J. Fox, Esq.; Hon. William A. Moore, A. M.; J. W. French, Esq.

Examining Committee—Rev. A. S. Carman; W. H. Merritt, A. B.; Rev. J. P. Phillips.

BAPTIST STATE CONVENTION.

Board of Kalamazoo College and Ministerial Education—Rev. W. L. Munger, Chairman, Cassopolis; Prof. D. Putnam, Treasurer; Prof. S. J. Axtell, Secretary, Kalamazoo; Rev. C. W. Barber, Battle Creek; Rev. S. Haskell, D. D., Kalamazoo; Rev. H. Burns, Hillsdale; Rev. J. A. Johnston, Kalamazoo; Rev. E. R. Curry, Jackson; Rev. J. W. Stone, Clinton; A. G. Slocum, LL. D., Kalamazoo.

FACULTY.

A. Gaylord Slocum, LL. D., President and Professor of Mental and Moral Philosophy.

Rev. Samuel Brooks, D. D., Professor of the Latin Language and Literature.

Rev. Seth J. Axtell, A. B., Professor of the Greek Language and Literature.

Robert W. Putnam, Professor of Mathematics.

Stillman G. Jenks, B. S., Professor of Natural Sciences.

Rev. Samuel Haskell, D. D., Instructor in the English Bible.

Hein Lankheet, B. S., Instructor in Mathematics.

Karl Graf, Instructor in French.

Miss Ella M. Hayes, B. Pd., Instructor in History and English Literature.

Miss Emma Shafer, B. S., Instructor in German and English.

Miss Lelia A. Stevens, B. M., Instructor in Vocal and Instrumental Music.

Prof. S. G. Jenks, Librarian.

SUMMARY.

COLLEGE STUDENTS.

Seniors	2	
Juniors	9	
Sophomores	15	
Freshmen	22	
Elective	7	55

PREPARATORY STUDENTS.

Fourth year	12	
Third year	31	
Second year	41	
First year	45	
Special Students	32	161

STUDENTS IN MUSIC.

Piano	30	
Vocal	22	52
		268
Students counted twice		37
Total (different students)		231

COURSES OF STUDY—COLLEGE.

CLASSICAL COURSE.

[Leading to Degree of A. B.]

FRESHMAN YEAR.

FIRST TERM.—*Latin*—Cicero—De Senectute and De Amicitia. *Greek*—Homer—Iliad, with written translation of one book. *Mathematics*—Trigonometry—Plane and Spherical. *Oratory*—Voice Culture, one exercise a week.

SECOND TERM.—*Latin*—Livy, with lectures on Roman history. *Greek*—Selections from Herodotus. *Mathematics*—Higher Algebra. *Oratory*—Voice Culture, one exercise a week.

THIRD TERM.—*Latin*—Horace—Odes and Satires, *Greek*—Xenophon—Memorabilia. *Mathematics*—Higher Algebra, completed. *Oratory*—Voice Culture, one exercise a week.

SOPHOMORE YEAR.

FIRST TERM.—*Latin*—Quintilian—Institutes, twice a week. *Greek*—Plato—Apology of Socrates, three times a week. *German*—Grammar and Reader. **Bible*—Studies in the Old Testament. **Mathematics*—Analytical Geometry. **Science*—Chemistry or Biology. *Oratory*—Province of Expression, one exercise a week.

SECOND TERM.—*Greek*—Selections from the Dramatists. *German*—Reader—Hillern's Höher als die Kirche. **Bible*—Studies in the New Testament. **Mathematics*—Calculus. **Science*—Analytical Chemistry or Astronomy. *Oratory*—Province of Expression, one exercise a week.

THIRD TERM.—*Latin*—Tacitus—Germania and Agricola. *German*—Schiller's Wilhelm Tell. **Mathematics*—Surveying, or Analytical Geometry. **Science*—Organic Chemistry or Biology. *Oratory*—Province of Expression, one exercise a week.

JUNIOR YEAR.

FIRST TERM.—*English*—Rhetoric. **Latin*—Terence—Andrea. **History*—Constitutional History of the United States. **Science*—Physics—Mechanics, Sound and Light. **German*—Schiller—Die Balladen—Hosmer's German Literature.

SECOND TERM.—*Metaphysics*—Logic. *English*—English Literature. **Latin*—Seneca—Essays. **History*—Constitutional History of the United States. **Science*—Physics—Electricity and Heat. **German*—Schiller—Die Jungfrau von Orleans—Hosmer's German Literature, continued.

THIRD TERM.—*Science*.—Geology. **Greek*—Demosthenes—De Corona. **History*—History of the Nineteenth Century. **English*—American Literature. **Bible*—Apostolic Labors and Church. **German*—Goethe—Nathan der Weise—Hosmer's German Literature, completed.

SENIOR YEAR.

FIRST TERM.—*Metaphysics*—Psychology. *Philosophy*—History of Philosophy. *Social Science*—Economics.

SECOND TERM.—*Metaphysics*—Moral Philosophy. *Theology*—Natural Theology. *History*—History of Civilization.

THIRD TERM.—*Aesthetics*—History of Art, with lectures. *Religion*—Evidences of Christianity. *Jurisprudence*—International Law.

LATIN SCIENTIFIC.

[Leading to Degree of B. Ph.]

FRESHMAN YEAR.

FIRST TERM.—*Latin*—Cicero—De Senectute and De Amicitia. *Mathematics*—Trigonometry—Plane and Spherical. *Science*—Biology—Vegetable. *Oratory*—Voice Culture, one exercise a week.

SECOND TERM.—*Latin*—Livy, with lectures on Roman History. *Mathematics*—Higher Algebra. *Science*—Astronomy, *Oratory*—Voice Culture, one exercise a week.

* Studies marked with an asterisk are elective.

THIRD TERM.—*Latin*—Horace—Odes and Satires. *Mathematics*—Higher Algebra completed. *Science*—Biology—Animal. *Oratory*—Voice Culture, one exercise a week.

SOPHOMORE YEAR.

FIRST TERM.—*French*—Second year's work; or *German*—Schiller—Die Balladen—Hosmer's German Literature. *Science*—Chemistry. **Mathematics*—Analytical Geometry, **Bible*—Studies in the Old Testament. *Oratory*—Province of Expression, one exercise a week.

SECOND TERM.—*French*—Second year's work continued; or *German*—Schiller—De Jungfrau von Orleans—Hosmer's German Literature continued. **Science*—Analytical Chemistry. **Bible*—Studies in the New Testament. **Mathematics*—Calculus. *Oratory*—Province of Expression, one exercise a week.

THIRD TERM.—*French*—Second year's work concluded; or *German*—Schiller—Wilhelm Tell; Goethe—Nathan der Weise—Hosmer's German Literature, completed. **Mathematics*—Surveying or Analytical Geometry. **Science*—Organic Chemistry. **Latin*—Tacitus—Germania and Agricola. *Oratory*—Province of Expression, one exercise a week.

JUNIOR YEAR.

FIRST TERM.—*Science*—Physics—Mechanics, Sound and Light. *English*—Rhetoric. **Latin*—Terence—Andrea. **History*—Constitutional History of the United States.

SECOND TERM.—*Metaphysics*—Logic. *English*—English Literature. **Latin*—Seneca—Essays. **History*—Constitutional History of the United States. **Science*—Physics—Electricity and Heat.

THIRD TERM.—*Science*—Geology. **English*—American Literature. **History*—History of the Nineteenth Century. **Bible*—Studies in the New Testament.

SENIOR YEAR.

FIRST TERM.—*Metaphysics*—Psychology. *Philosophy*—History of Philosophy. *Social Science*—Economics.

SECOND TERM.—*Theology*—Natural Theology. *Metaphysics*—Moral Philosophy. *History*—History of Civilization.

THIRD TERM.—*Aesthetics*—History of Art, with lectures. *Religion*—Evidences of Christianity. *Jurisprudence*—International Law.

SCIENTIFIC COURSE.

[Leading to Degree of B. S.]

FRESHMAN YEAR.

FIRST TERM.—*Mathematics*—Trigonometry—Plane and Spherical. *Science*—Biology—Vegetable. *French or German*—Second year's work. *Oratory*—Voice Culture, one exercise a week.

SECOND TERM.—*Mathematics*—Higher Algebra. *Science*—Astronomy. *French or German*—Second year's work continued. *Oratory*—Voice Culture, one exercise a week.

THIRD TERM.—*Mathematics*—Higher Algebra, completed. *Science*—Biology—Animal. *French or German*—Second year's work, concluded. *Oratory*—Voice Culture, one exercise a week.

SOPHOMORE YEAR.

FIRST TERM.—*French or German*—Second year's work. *Science*—General Chemistry. **History*—History of England. **Mathematics*—Analytical Geometry. **Bible*—Studies in the Old Testament. *Oratory*—Province of Expression, one exercise a week.

SECOND TERM.—*French or German*—Second year's work, continued. *Science*—Qualitative Chemistry. **History*—History of England. **Mathematics*—Calculus. **Bible* Studies in the New Testament. *Oratory*—Province of Expression, one exercise a week.

THIRD TERM.—*French or German*—Second year's work, concluded. **Science*—Organic Chemistry. **History*—History of France. **Mathematics*—Surveying or Analytical Geometry. *Oratory*—Province of Expression, one exercise a week.

JUNIOR YEAR.

FIRST TERM.—*Science*—Physics—Mechanics, Sound and Light, *English*—Rhetoric. **History*—Constitutional History of United States. **Mathematics* — Analytical Geometry. **Bible*—Studies in the Old Testament.

SECOND TERM. — *Metaphysics* — Logic. *English*—English Literature. **Science*—Physics—Electricity and Heat. **History*—Constitutional History of the United States. **Mathematics*—Calculus. **Bible*—Studies in New Testament.

THIRD TERM. — *Science* — Geology. **English* — American Literature. **History*—History of the Nineteenth Century. **Mathematics*—Analytical Geometry. **Bible*—Studies in New Testament.

SENIOR YEAR.

FIRST TERM. — *Metaphysics* — Psychology. *Philosophy* — History of Philosophy. *Social Science*—Economics.

SECOND TERM. — *Theology* — Natural Theology. *Metaphysics* — Moral Philosophy. *History*—History of Civilization.

THIRD TERM.—*Aesthetics*—History of Art, with Lectures. *Religion*—Evidences of Christianity. *Jurisprudence*—International Law.

PREPARATORY DEPARTMENT.

CLASSICAL COURSE.

FIRST YEAR.

FIRST TERM.—Arithmetic, Grammar, Physical Geography.
SECOND TERM.—Arithmetic (completed), English, United States History.
THIRD TERM.—Physiology, English, Civil Government.

SECOND YEAR.

FIRST TERM.—Latin (begun), Algebra (begun), Physics.
SECOND TERM.—Latin, Algebra, Physics (completed).
THIRD TERM.—Latin (Cæsar), Algebra, Latin Prose.
One exercise each week through the year in essay writing.

THIRD YEAR.

FIRST TERM.—Latin (Cæsar), Greek (begun), Geometry (begun).
SECOND TERM.—Latin (Cæsar), Greek, Geometry.
THIRD TERM.—Latin (Cicero), Greek (Reader), Geometry (Solid).
One exercise each week through the year in practical rhetoric.

FOURTH YEAR.

FIRST TERM.—Latin (Cicero), Latin (Vergil), Greek (Anabasis).
SECOND TERM.—Latin (Vergil), Greek (Anabasis), History of Greece and Rome.
THIRD TERM.—Latin (Ovid), Greek (Lysias), Review of Mathematics.
One exercise each week through the year in public speaking.

LATIN SCIENTIFIC COURSE.

FIRST YEAR.

FIRST TERM.—Arithmetic, Grammar, Physical Geography.
SECOND TERM.—Arithmetic (completed). English, United States History.
THIRD TERM.—Physiology, English, Civil Government.

SECOND YEAR.

FIRST TERM.—Latin (begun), Algebra (begun), Biblical History.
SECOND TERM.—Latin, Algebra, General History.
THIRD TERM.—Latin (Cæsar), Alegbra, Latin Prose.
One exercise each week through the year in essay writing.

* Stars denote elective studies.

THIRD YEAR.

FIRST TERM.—Latin (Cæsar), Geometry (begun), Physics (begun).
SECOND TERM.—Latin (Cæsar), Geometry, Physics (completed).
THIRD TERM.—Latin (Cicero), Geometry (Solid), Botany.
One exercise each week through the year in practical rhetoric.

FOURTH YEAR.

FIRST TERM.—Latin (Cicero), Latin (Vergil), French or German.
SECOND TERM.—Latin (Vergil), Chemistry, French or German.
THIRD TERM.—Latin (Ovid), Review of Mathematics, French or German.
One exercise each week through the year in public speaking.

SCIENTIFIC COURSE.

FIRST YEAR.

FIRST TERM.—Arithmetic, Grammar, Physical Geography.
SECOND TERM.—Arithmetic (completed), English, United States History.
THIRD TERM.—Physiology, English, Civil Government.

SECOND YEAR.

FIRST TERM.—Book-keeping, Algebra (begun), Biblical History.
SECOND TERM.—Book-keeping, Algebra, General History.
THIRD TERM.—Elementary Rhetoric, Algebra, General History.
One exercise each week through the year in essay writing.

THIRD YEAR.

FIRST TERM.—French (begun), Physics (begun), Geometry (begun).
SECOND TERM.—French, Physics (completed), Geometry.
THIRD TERM.—French, Botany, Geometry (Solid).
One exercise each week through the year in practical rhetoric.

FOURTH YEAR.

FIRST TERM.—English Literature, Geology, German (begun).
SECOND TERM.—English Literature, Chemistry, German.
THIRD TERM.—Astronomy, Review of Mathematics, German.
One exercise each week through the year in public speaking.

DEPARTMENT OF MUSIC.

The course of instruction includes organ playing, piano-forte, harmony, and the cultivation of the voice.

Pupils who have made sufficient advancement will be granted certificates specifying the amount and quality of the work done, when they leave the college.

In the study of the piano-forte careful attention is given to the pupil as an individual; his particular needs being made a study, and such means adopted as will secure for him the best artistic results.

Pupils are trained in the development of technique by the use of exercises and études of the best teachers and composers. The principles and practice of this technical work are intended only as a means for the attainment of true musical intelligence and appreciation.

FIRST GRADE.

Formation of correct touch, five finger exercises; Herz and Plaidy, Lebert and Stark, Köhler. Studies of Loeschhorn, Bertini, Burgmüller; Sonatinas by Clementi, Kuhlau, Reinecke. Major and minor scales. Slow practice. Easy pieces.

SECOND GRADE.

Scale review for increased velocity; Etudes by Heller, Czerny, Loeschhorn, Bertini; Sonatinas and Sonatas by Kuhlau, Haydn, etc. Modern pieces, Memorizing, Sight Reading, Phrasing.

THIRD GRADE.

Double Thirds and Sixths, Scale Review; Etudes of Heller, Czerny and Loeschhorn; Sonatas by Mozart, Beethoven, Chopin's Mazurkas and Noeturnes. Works of Raff, Rheinberger, Schwarenka, Moszkowski and other modern composers. Sight Reading; Song Accompaniments.

FOURTH GRADE.

Scales in Double Thirds and Sixths; Cramer's Studies, Von Bülow, Clementi, Gradus ad Parnassum, Kullak, and Loeschhorn; Octave Studies, Chopin, Etudes, Concertos and concerted pieces by Beethoven, Mendelssohn, Chopin; Rubenstein; memorizing accompaniments.

Students in this grade have the opportunity of taking part in ensemble playing.

VOICE CULTURE.

In the cultivation of the voice special attention is given to the intelligent placing of tone, right control of the breath, and refinement of the ear.

Exercises by Concone, Marchesi, Bonaldi, Bordogni, and others are used, together with songs by English and German composers.

The chorus class offers opportunity to all the students for free instruction in sight singing, and will take up, from time to time, works of standard composers for production.

The college choir is made up of students who are somewhat advanced in general musical knowledge.

GENERAL INFORMATION.

LOCATION.

A better situation for an institution of learning than that which Kalamazoo College occupies could not be found. The natural features of its location are unsurpassed, while the proximity of the beautiful and enterprising city affords special advantages. The grounds comprise twenty-five acres on the western borders of the city, part of which is on the valley level and part on the slope and heights to the west, overlooking the valley and city. Thus the student in a good degree secures the stimulating influence of city life and the health and freedom of the country.

Kalamazoo is a city of 20,000 inhabitants and is advancing steadily in population, business, and wealth. Lines of railroad radiate in eight directions and fifty passenger trains a day enter or leave the city, thus rendering the institution easily accessible from all the surrounding territory. The city itself has a well deserved reputation for beauty. Wide, pleasantly shaded streets, elegant and comfortable private residences, well kept lawns and parks, handsome churches and imposing public buildings, are among its striking features. Within the year an elegant public library building has been erected. Students have access to the extensive collection of valuable books without charge.

BUILDINGS.

There are at present three buildings on the College Grounds. The dormitory, situated on College Hill, contains a large number of neat and convenient study rooms, each with an adjoining bedroom. The College Library, the Young Men's Christian Association rooms, and the rooms of the Sherwood Rhetorical Society, and of the Philolexian Lyceum are also in this building.

Kalamazoo Hall, standing on the lower campus, contains on the first and second floors, ten rooms for recitations and other purposes. A spacious chapel, occupying the third floor, and the hall of Eurodelphian Society are in this building.

The Ladies' Hall was erected by the Ladies' Hall Association of the State and transferred to the College in October, 1887. It is built of brick, with block stone foundation, is three stories in height, and has an attractive location on the summit of a hill crowned by a beautiful grove. Each room is designed to be occupied by two students. The building is heated by steam, is appropriately furnished, and will accommodate about twenty-five.

APPARATUS AND LABORATORIES.

The apparatus of the College may be classed under the following heads: astronomical, physical, chemical, biological, and general. The latter includes globes, maps, charts, etc., and surveying instruments.

The chemical and biological laboratories are supplied with apparatus and material for thorough work by the student, while the apparatus of other kinds enables the instructor to give numerous experiments from the lecture table. Additional purchases will be made from time to time.

LITERARY SOCIETIES.

In January, 1851, about a score of students assembled in President Stone's room and perfected an organization for the "cultivation of elocution and the acquisition of knowledge." Nearly a year later a permanent organization was effected and a constitution adopted. In 1860 the society was incorporated as the "Sherwood Rhetorical Society of Kalamazoo College." About 600 students have been members of the society, 63 of whom were enrolled during the past year. The society in the summer of 1892 expended nearly $150 in refurnishing their rooms, making of them a beautiful society home, in which the members hold their weekly sessions for the prosecution of the objects contemplated in the organization. The constant aim of the society has been to carry out the spirit of its motto, "Per Aspera ad Astra."

The Philolexian Lyceum was organized in 1855. Its members meet every Friday evening for the discussion of historical, literary, and political questions, and for parliamentary practice. Their hall on the fourth floor of the dormitory, with an anteroom in connection, has a seating capacity of about 150. Over $200 has been expended recently in new carpeting, window hangings, and other improvements on the interior of the hall. The library contains about 700 volumes, the gifts of friends and former members.

The Eurodelphian Society, composed of young ladies, was organized in 1856. Its early history is characterized by the struggles incident to such organizations. The room in Kalamazoo Hall now occupied by the society has been elegantly refurnished recently and, with its library, its newly purchased piano, and new appointments, constitutes an attractive hall for the young ladies who gather in it each Friday evening for literary culture.

RELIGIOUS APPOINTMENTS.

Prayer meetings, conducted by the students and open to all members of the College, are held each week under the direction of the Young Men's Christian Association.

The Young Women's Christian Association also holds weekly meetings.

All students are expected to attend daily worship in the chapel.

There are twenty churches of the various denominations in the city. Students are expected to select some one of these as a religious home, and to attend its services with regularity.

The atmosphere of the College is religious. A large proportion of our students, especially in the College classes, are professors of religion. The Faculty is also active in Christian work. The conversion of students to Christ, their growth in Christian graces, their inspiration to noble living and Christian devotion, are regarded as matters of highest importance. The religious purposes of the founders, the supporters, and the patrons of the Kalamazoo College, form the most essential part of its being and are to be a guide and inspiration to all its work and in all its life.

SUPERVISION OF THE HALL.

It is the aim of the College to furnish in the Ladies' Hall a comfortable and orderly Christian home. It is the endeavor of those in charge so to direct its life, that good health, happiness, and success in the school work shall be secured for its inmates. The regulations in force are few and simple and such as commend themselves at once to the judgment of the well disposed.

It is believed that the regularity and punctuality of the Hall life, the cheerful freedom within safe limits, the atmosphere of refinement and culture, the unobtrusive, but real religious influence, will tell in their own way for the highest interests of the students. While there is no requirement that young women from abroad shall board at the Hall, all are earnestly recommended to do so, and the attention of parents is called to the special advantages there to be found.

PRIZES.

Two prizes are offered each year as follows:

1. The Sherwood prize, endowed by the late Adiel Sherwood, D. D., of St. Louis, given for the best declamation by a freshman at a public contest.

1892. FIRST.—Erwin Brigham Taft, Tekonsha.
SECOND.—Lillian Hopkins, Otsego.

2. The Cooper prize, endowed by the late Charles Cooper, Esq., of White Pigeon, given for the best delivery of an oration at the junior exhibition.

1892. FIRST.—Mary Ellen Hopkins, Kalamazoo.
SECOND.—Annie Laurie Rooney, Kalamazoo.

ATHLETICS.

Recognizing a sound body as an essetial condition for the best mental health, the Faculty encourages the students to use the grounds of the

College freely for various outdoor games. At the same time proficiency in such games to the detriment of scholarship and mental culture receives no approval. The Athletic Association, managed by the students themselves, is a healthy, vigorous organization. In the new building of the Kalamazoo Y. M. C. A. there is an excellent gymnasium, fitted up with all modern appliances. This is available to college students at reduced rates.

EXPENSES.

☞All bills must be paid in advance.

To entitle the student to enter one of the classes in the collegiate department, or to take one or more of the college studies, he must pay a *matriculation fee* of $5. This fee is required but once, and that at the beginning of the student's course in the College proper. No matriculation fee is required for entering the Preparatory Department.

FOR YOUNG MEN.

Tuition in any department	$8 50	per term.
Room rent in the dormitory, corner rooms $5.00, inside rooms	4 00	" "
Table board at the Ladies' Hall	2 50	" week.
Summary for an average term of 12 weeks:		
Tuition	8 50	
Board 12 weeks at $2.50	30 00	
Room rent in dormitory	5 00	
	$43 50	

This does not include laundry, fuel, lights, books, or furniture. Some of the rooms are furnished, others not. The assignment of rooms is in the hands of one of the professors.

There are also approved private boarding houses near the College, where board, either with or without rooms, can be obtained at rates corresponding to the above.

Students frequently board themselves in their own rooms in private houses or get their meals in clubs, and thus diminish their expenses.

FOR YOUNG WOMEN (AT THE HALL).

Tuition in any department	$8 50	per term.
Table board	2 50	per week.

Pupils who desire can assist in the domestic duties of the hall one hour each day, for which service a deduction of 50 cents per week will be made in the price of board.

Room rent $1.00 or 75 cents per week, according to location.

The occupants of rooms are expected to furnish their own sheets, pillow slips, towels, white spreads, napkins, and soap. No charge is made for fuel and lights, or for the washing of room linen and napkins.

It is the intention to make the charges as low as the cost of supplies and service will permit.

A telephone connects the building with the general city service.

OTHER EXPENSES.

LABORATORY CHARGES.

Students taking work in the chemical laboratory pay the actual cost of the material used by them.

BOOKS.

The cost of text books varies from term to term. From $2 to $5 may be considered the range.

Other expenses vary with the tastes and means of the students. There is but little temptation for any to indulge in extravagance in dress, while general neatness in attire is the universal rule. The aim of the institution is "to place the best advantages within the reach of all, the poor as well as the the rich," and social requirements correspond to that aim.

BENEFICIARY AID.

Through the Board of Kalamazoo College and Ministerial Education, free tuition and room rent are afforded to students for the ministry who bring letters of commendation from their churches and who are members of the College classes. In addition to this a limited amount of financial assistance is granted to those who need it, from the gifts of the churches. This amount has been $25 per term for the past year.

Tuition and room rent of Christian students in the Preparatory Department are sometimes paid from the same source or from special funds contributed for this purpose. This will be granted only to those who are approved by the Faculty and need such aid. Preference is given to members of the two higher classes of the department. Occasionally students receive assistance from funds designated for their use by churches or individuals.

SPECIAL BENEFICIARY FUNDS.

TAFT FUND—This gift of $2,520 was made by Mr. Lewis A. Taft, the income to be used for indigent students.

AXTELL FUND—This gift of $1,000 was made by Mrs. Hannah E. Axtell, and the income is to be used for ministerial education.

CALEB VAN HUSAN MEMORIAL SCHOLARSHIP—This scolarship was established by the widow and children of the late Caleb Van Husan, the income to be used to aid some deserving and needy student.

It would be helpful if churches and benevolent friends could become interested personally in individual students and the donors of funds come in direct communication with the young people whom they assist. Here, however, there is great need of caution, lest one worthy student abound and his equally worthy neighbor suffer lack. This school is a large family, and there should be no difference in the treatment of its worthy members. The best medium of bestowing aid is that provided by the Baptist State Convention, namely through the Board of Kalamazoo College and Ministerial Education.

GIFTS TO THE LIBRARY.

The College gratefully acknowledges generous gifts of valuable books from C. R. Henderson, D. D., of the University of Chicago; Mrs. E. Van Winkle of Napoleon, and Mr. H. L. Field of Eaton Rapids. Also many valuable public documents from Hon. J. C. Burrows of Kalamazoo.

THE AIM OF THE COLLEGE.

The purpose of Kalamazoo College is to furnish to young men and women the opportunities for securing a liberal education under Christian influences and at a moderate expense. It was founded and has been sustained by the prayers and gifts of those who believe in Christian education. It must rely for its support and development upon the interest of its alumni and other friends, and upon their gifts for endowment, buildings, and appliances. Small colleges have their place, and that an important one, but they must be well equipped to do successful work.

It is hoped that Kalamazoo College may so commend itself to the friends of higher education that they will gladly furnish the means for its development, while they can see and rejoice in the results of their benefactions, or will make provision in their wills for carrying on the work which appeals to every intelligent man or woman as the safeguard of the nation, and the best preparation for a useful life.

A. GAYLORD SLOCUM,
President.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction*:

DEAR SIR—As chairman of the committee appointed by you to visit Kalamazoo College, I went to the institution last June and spent the day in visiting the various departments and listening to recitations. I did not meet the other members of the committee, but have received from Supt. Cupples of Lapeer, an abstract of a report already forwarded to you.

I attended recitations in Latin, political economy, higher algebra, history, English literature, rhetoric, chemistry and English grammar.

I found the instruction, in most cases, thorough and painstaking, and the work well done. The spirit and atmosphere of the institution seems earnest and scholarly. The president, Dr. A. Gaylord Slocum, seems to be a most earnest and efficient executive, and the general outlook for the college is quite hopeful.

An immediate and pressing need is that of more and better accomodations, both for dormitory and recitation purposes. I learn that the prospects for such improvement in the near future are encouraging.

The college is also sadly in need of more room and better facilities for laboratory work in the sciences; these departments are sadly cramped by the lack of room, and a small sum of money expended here would surely be productive of most gratifying results.

Very respectfully,
J. O. REED.

To HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—I beg leave to report that I visited Kalamazoo College without any previous arrangement with the Faculty nor with the other members of the committee as to date of visit, and found the instructors and students in the regular routine work. I saw work done in every department during the two days spent in visiting the institution. The President and Faculty extended every courtesy and every opportunity desired to observe the work of teachers and pupils in the various class rooms.

The work done in the literary societies by the students was good, and by their usual weekly exercises, as well as by their annual contests, they furnish students invaluable opportunities for acquiring skill in composition work and in public speaking.

The class instruction to which I listened was in general of a high order of excellence, and I was pleased with the scholarly zeal manifested by the several instructors. The first class we were introduced to was a class in Horace. The odes were construed correctly and readily translated into elegant English. In Tacitus much attention seemed to be given to the historical references, in order to interest the pupils in Latin literature and history, thus laying the foundation for that broad culture which is obtained from the linguistic, literary, and artistic study of Latin. The same method seemed to be used with the classes in Greek. The work in German seemed to be about the same in quantity and quality as is done in our good high schools.

I have nothing but words of commendation to bestow upon the character of the work done in the Mathematical and Science Departments. While the work in the physical sciences was of a high order, some good friend of the institution could do no better service than to furnish the college with better apparatus for that department.

The location and surroundings of the college are all that could be desired for beauty, if a little money were judiciously expended upon them.

One great hindrance is the want of adequate funds. It is hoped that the friends of the institution can see their way clear to give it more money and more students. Much has been done in this direction by Messrs. C. C. Bowen, R. E. Murray, C. B. Grant, More, and others. Much needs to be done.

The atmosphere of the college is religious. The Faculty are active in Christian work, and we understood most of the students to be professors of religion. Instruction in the English Bible is given an important place in the course of study.

The practical training in reading and elocution given to the lower classes, and the oratory intended for the advanced classes, struck me as a commendable feature.

So far as I could observe, there prevailed a sincere and well-directed effort to educate and instruct the whole man morally, intellectually, and physically.

Respectfully submitted,

J. W. CUPPLES.

MICHIGAN FEMALE SEMINARY.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—As a committee appointed to visit Kalamazoo Female Seminary, we, the undersigned, would respectfully submit the following report:

Our visit occurred during the spring term; and, arriving without previous announcement, we were enabled to see things in their usual condition.

The first thing that attracted our especial attention in approaching was the remarkable beauty of location. The imposing buildings, or building (as the halls are united in one structure), is admirably situated in the midst of a grove of stately oaks on an eminence overlooking the city of Kalamazoo, a mile from its business center. Dodge Hall, a beautiful and finely appointed three-story building, was built the past year and adds greatly to the comforts and convenience of this veritable home for young ladies.

The different departments were carefully inspected and representative classes visited as far as possible. We believe that thorough, conscientious work is being done by the various instructors, and it would be a matter of no small difficulty for us to single out from so able a corps of teachers any one in particular to be pre-eminently commended. As we had opportunity, however, to examine more critically the work in literature and the languages, we can frankly express our high appreciation of the quality of instruction in these branches. As a special advantage possessed by this institution, we would mention the cooking class, in which the essential principles of cookery and of domestic economy in general are taught.

We were delighted with the vocal music rendered by the seminary quartet, and consider it as reflecting great credit upon the efficiency of their instructor.

The art department, which has been added at a somewhat recent date, exhibits a fine quality of work done by the students. Casts, photographs, landscapes, etc., are used as models and studies; and we should judge that the aesthetical is cultivated here to a high degree.

The library consists of about 2,000 volumes, chosen largely with regard to their value as works of reference. That which is trashy and ephemeral is notably absent from the collection.

The museum, though not large, is fairly well equipped for the purpose of aids to scientific instruction. The new gymnasium in Dodge Hall is a valuable auxiliary, under the direction of a competent instructor. Calis-

thenic exercises of varied character are required of all students, and careful attention is paid to the laws of health.

In a most practical manner the principles of Christian ethics are taught and kept in the foreground. Bible study and attendance on divine worship being obligatory on all students.

In conclusion, we would say that this institution is now in the best sense distinctively modern, its management business like, and its educational, moral, and social atmosphere pleasant and elevating; and we can see no reason why it should not receive a hearty endorsement from all interested in that education which develops the best elements of true womanhood.

Very respectfully,

S. B. HARVEY,
JOSEPHINE A. GOSS.

MICHIGAN MILITARY ACADEMY.

REPORT OF SUPERINTENDENT.

HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—I have the honor to present my report of the Michigan Military Academy for the school year of 1892–3.

ACADEMIC STAFF.

Col. J. Sumner Rogers, Superintendent.
William H. Butts, A. M., Principal (University of Michigan), Mathematics and Law.
Irvah Lester Winter, A. B. (Harvard), History and Literature.
First Lieutenant Frederick S. Strong, (4th U. S. Artillery, West Point), Military Science and Tactics.
C. Leslie Lewis, A. B. (Hamilton), English and Elocution.
Taylor More, (Geneseo Normal), History and Mathematics.
A. E. Curdy, A. B. (University of Kansas), Modern Languages.
Wm. B. Fite, Ph. B. (Cornell University), Algebra and Arithmetic.
Norman W. Cary, A. M. (Yale University), Sciences.
J. H. Harris, A. B. (University of Michigan), Greek and Latin.

MILITARY STAFF.

Col. J. Sumner Rogers, M. S. T., Superintendent.
1st Lieut. Frederick S. Strong, 4th U. S. Artillery, Commandant of Cadets.
2d Lieut. Russell P. Reeder, Adjutant and Tactical Officer.
Maj. Harry L. Rogers, M. S. T., Quartermaster and Commissary.
Maj. Frank B. Galbraith, M. S. T., Surgeon.
1st Lieut. James C. F. Hollister, Asst. Quartermaster.
Rev. Wm. S. Jerome, Rev. Mac. H. Wallace, Rev. F. C. Pillsbury, Rev. N. W. Cary, Chaplains.
Mrs. Isa Brainard, Matron.

ENROLLMENT.

The number of cadets in attendance during the year was one hundred and fifty-five. Of these forty-four were from Michigan, forty-four from

Illinois, seventeen from Ohio, thirteen from Indiana, eight from Kansas, and the remainder from thirteen other states. Following is a classification by courses: Preparatory, nineteen; Scientific, eighty-five; Academy, thirty-two; Classical, nine; Latin, seven; Post-graduate, three.

COURSES OF STUDY.

Each course of study, in addition to one preparatory year, occupies four years and the courses are so arranged as to prepare students for admission to any course in the best colleges. In the Academy course, students may, at the end of the third year, be admitted by letter of recommendation to the B. L. course in the University of Michigan.

Among the various branches of study English is made of great importance. The work in this study is required of all students, for most of the time by daily recitations, throughout their entire course. To increase interest in the subject, prizes are offered for excellent work. The Jayne medal is offered annually by Mr. D. D. Jayne of Detroit, for the best essay on some subject taken from American Political History, or on some public economic question pertaining to the United States; and two medals are offered annually by the Superintendent for excellence in declamation.

To meet the new mathematical requirements for the engineering courses in Cornell University, instruction is given in college algebra and in plane and spherical trigonometry. In addition to this a course is given in conic sections, for which credit is given in college.

In Greek the period of study is increased to two and a half years, in accordance with the recommendations of the committee of ten appointed by the National Educational Association for establishing uniformity of College preparation.

The course in Latin is based upon the requirements for admission to the University of Michigan, though this is varied in individual cases to meet the requirements of Eastern colleges.

In modern languages a half year in Spanish was added last year as an optional study and was chosen by about twenty students.

One half year is given to each of the following branches of history: United States, English, Roman, Grecian, mediæval, and modern. One change will go into effect next year. Instead of teaching the whole of general history in one year, it is thought advisable to give the same time to a more intimate study of a part of the subject. The whole year will therefore be given to mediæval and modern history. In the study of history, a special point is made of teaching the use of the library and of requiring frequent written exercises in the class room.

In political science instruction is given in civil government, political economy, and law. In law to meet the requirements of admission to the best law schools, one-half year is given to Cooley's Elements of Constitutional Law and a half year to Robinson's Elementary Law, with special reference to Books I, III, and IV of Blackstone.

In the sciences one-half year's work is given beyond that required for college. This consists of experiments in the chemical laboratory, two hours a day, five days in a week.

In military studies half year courses are offered in military tactics, in the art of war, and in military law.

GRADUATES.

The number of cadets graduated from the school this year was twenty-four, the largest class the school has ever sent out. The graduating exercises were held in Chicago. By the omission of the usual Easter holidays the work of the year was finished two weeks earlier than usual, and on June first the entire corps with the instructors and officers went into camp on the World's Fair grounds in Jackson Park. Ample grounds with a field for parade had been prepared and reserved in the park for the school, and every convenience was afforded for presenting a model military camp. Camp discipline was maintained throughout the two weeks' stay, and each day the cadets in divisions under their instructors visited the various exhibits. The graduating exercises were held June 15, in Music Hall on the Fair Grounds. The address to the Senior class was delivered by President T. W. Palmer, of the National Commission, and the diplomas were presented by Major General Nelson A. Miles. The experiment of thus visiting the World's Fair proved in every way satisfactory, and the opportunity afforded for studying the Exposition is regarded as one of the educational advantages of the year.

J. SUMNER ROGERS,
Col. M. S. Troops, Supt.

OLIVET COLLEGE.

REPORT OF PRESIDENT.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

On behalf of the trustees of Olivet College I beg leave to submit herewith the annual report for the academic year ending Aug. 30, 1893.

The corporation of the college consists of twenty-five trustees, four of whom are elected annually. The president is a member *ex officio* and chairman of the board. This report includes a list of the trustees of the Faculty, a summary of the number of students, and account of the various courses of study, and some miscellaneous information.

CORPORATION.

TRUSTEES.

Rev. Willard G. Sperry, D. D., *President.*

Term expires 1894.

Frank S. Belcher, Esq., Charlotte; Hon. Frank A. Hooker, Lansing; Sumner O. Bush, Esq., Battle Creek; Wellington W. Cummer, Esq., Cadillac.

Term expires 1895.

Rev. Oramel Hosford, Olivet; Hon. Asa K. Warren, Olivet; George W. Radford, Esq., Detroit; Rev. Andrew M. Brodie, Manistee.

Term expires 1896.

Henry E. Green, Esq., Olivet; Rev. Dan F. Bradley, D. D., Grand Rapids; Edwin N. Ely, Esq., Olivet; Harvey J. Hollister, Esq., Grand Rapids.

Term expires 1897.

Dexter M. Ferry, Esq., Detroit; Fitz. L. Reed, Esq., Olivet; Leroy Cahill, Esq., Kalamazoo; Philo Parsons, Esq., Detroit.

Term expires 1898.

Rev. Wolcott B. Williams, Charlotte; Leroy Warren, D. D., Lansing; Charles F. Bridgman, Esq., Flint; Isaac C. Seeley, Esq. Minneapolis, Minn.

Term expires 1899.

Eugene Rutan, Esq., Greenville; Charles B. Stockwell, M. D., Port Huron; Rev. Charles H. Beale, Lansing; William H. Davis. D. D., Detroit.

The annual meeting of the trustees occurs the third Tuesday in June, 8 p. m.

Executive Committee.—W. G. Sperry, Chairman; F. L. Reed, H. E. Green, E. N. Ely, A. K. Warren.

Investment Committee.—D. M. Ferry, H. J. Hollister, F. S. Belcher.

Library Committee.—J. L. Daniels, J. Estabrook, G. A. Knapp.

Frank S. Belcher, Treasurer.

Albert L. Lee, Secretary and Assistant Treasurer.

Finance Committee.—G. W. Radford, H. J. Hollister, D. M. Ferry, W. W. Cummer, S. O. Bush, Leroy Cahill, F. S. Belcher.

Woman's Board of Managers.—Miss Grace J. Haynes, President; Mrs. W. G. Sperry, Mrs. J. Estabrook, Mrs. H. King, Mrs. J. L. Daniels, Mrs. E. N. Ely, Mrs. O. Hosford, Miss O. Kirkland, Mrs. S. Montgomery.

Miss Olive Kirkland, Matron of Shipherd Hall.

FACULTY.

Willard G. Sperry, D. D., President; Drury Professor of Mental and Moral Philosophy.

Horatio Q. Butterfield, D. D., Drury Professor Emeritus of Mental and Moral Philosophy.

Rev. Oramel Hosford, A. M., Professor Emeritus of Astronomy and Natural Philosophy.

Rev. Joseph L. Daniels, A. M., Parsons Professor of the Greek Language and Literature.

Stewart Montgomery, A. M., Erwin Professor of Chemistry and Physiology.

Rev. Joseph Estabrook, A. M., Principal of the Normal Department; Professor of Pedagogy, Logic, and Evidences of Christianity.

Edwin F. Norton, A. M., Professor of the French and German Languages and Literatures.

George A. Knapp, A. M., Stone Professor of Astronomy and Natural Philosophy; Instructor in Mathematics.

Charles E. Dixon, A. M., Rutan Professor of the Latin Language and Literature.

James L. Kellogg, Ph. D., Professor of Biology and Geology.

Grace J. Haynes, Principal of the Young Women's Department on Dennis Foundation; Instructor in Elocution and English Literature.

Mrs. Lizzie E. Bintliff, Professor of Music, Director of the Conservatory.

Hamilton King, A. M., Principal of Preparatory Department, Instructor in Greek.

George N. Ellis, A. M., Instructor in Latin.

Rev. Charles McKenny, A. M., B. S., Instructor in English and History.

Miss M. Ida Swindt, M. L., Instructor in Mathematics and Science.

Miss Wilhelmina Westrater, B. L., Instructor in English and German.

Miss Anna B. Shepard, Instructor in Vocal Music.

Miss Elizabeth Jones, Teacher of Piano.

Samuel L. Wise, Instructor in Painting and Drawing.

Edgar F. Hutchinson, Director of Gynasium, Instructor in Physical Culture.
Joseph L. Daniels, Librarian.
Albert L. Lee Registrar.

SUMMARY OF STUDENTS.

COURSES.

College.

Classical	49	
Scientific	34	
Literary	34	
Total		— 117

Preparatory.

Classical	31	
Scientific	55	
Literary	33	
Junior class*	15	
Normal and Elective	14	
Total		— 148
Special		5
Conservatory of Music	62	
Students in Music Department not classified elsewhere		34
Grand total		304

RESIDENCE.

Alabama	2	New York	5
Connecticut	3	Ohio	5
Illinois	19	Pennsylvania	2
Iowa	5	South Carolina	1
Louisiana	1	Utah	1
Michigan	250	Washington	1
Minnesota	1	Wisconsin	1
Missouri	2	England	1
New Hampshire	3	New Brunswick	1

COLLEGE DEPARTMEMT.

CURRICULUM.

CLASSICAL COURSE.

Freshman Year.

Fall Term.—LATIN—Cicero—De Senectute and De Amicitia. GREEK—Homer—Iliad and Odyssey. MATHEMATICS—Higher Algebra. ORATORY—Lectures on Composition and Style; Essays, Discussions, Orations and Elocution.

Winter Term.—LATIN—Livy—Liber I. GREEK—Herodotus and Thucydides; Greek Testament. MATHEMATICS—Solid Geometry. ORATORY—Same as Fall Term.

Spring Term.—LATIN—Livy—Liber XXI and XXII. GREEK—Memorabilia, and Greek Prose Composition. MATHEMATICS Trigonometry. ORATORY—Same as Fall Term.

Sophomore Year.

Fall Term—LATIN—Horace—Odes and Epodes; Roman Antiquities. GREEK—Æschylus—Prometheus; Sophocles—Œdipus Tyrannus. ENGLISH—Logic. ORATORY—Lectures on Composition and Style; Essays, Discussions, Orations and Elocution.

* Students classified, but studies same for all courses.

Winter Term—LATIN—Tacitus—Germania and Agricola; Classical Geography. GREEK—Plato—Apology and Crito. ENGLISH—Science of Rhetoric. ORATORY—Same as Fall Term.

Spring Term—LATIN—Plautus or Terence—Selected Plays; Roman Drama. GREEK—Demosthenes—De Corona. ENGLISH—English Literature. ORATORY—Same as Fall Term.

Junior Year.

Fall Term.—*NATURAL SCIENCE—One of the three: *a.* Inorganic Chemistry; *b.* Physics—Mechanics and Acoustics; *c.* Biology—Invertebrate Zoölogy. *ENGLISH—Study of English Classics—Chaucer, Spenser, Shakespeare, Milton—with Lectures. *HISTORY—Ancient and Mediæval History. *MATHEMATICS—Surveying; Analytic Geometry. *FRENCH—Grammar; French Prose. *GERMAN—Grammar; Brandt's German Reader. *LATIN—Pliny—Epistles; Martial. *GREEK—Sophocles. *MUSIC—Harmony. ORATORY—Lectures on Composition and Style; Essays, Discussions, Orations and Elocution.

Winter Term.—*NATURAL SCIENCE—one of the three, continued: *a.* Inorganic Chemistry, Qualitative Analysis. *b.* Physics—Magnetism and Electricity. *c.* Biology—Vertebrate Zoölogy. *NATURAL SCIENCE—Human Anatomy, Physiology and Hygiene. Biology—Structural Botany. *ENGLISH—English and American Classics. *HISTORY—History of England. *MATHEMATICS—Differential Calculus. *FRENCH—Grammar; Extracts from Prose Writers. *GERMAN—Grammar; Brandt's German Reader, continued. *LATIN—Juvenal. GREEK—Plato. *MUSIC—Harmony. ORATORY—Same as Fall Term.

Spring Term.—*NATURAL SCIENCE—One of the three, continued: *a.* Organic Chemistry, Blowpipe Analysis, Determinative Mineralogy. *b.* Physics—Hydrostatics, Pneumatics, Heat, Light. *c.* Biology—Theoretical Problems of Biology; Embryology. *NATURAL SCIENCE—Anatomy, Physiology and Hygiene; Biology—Botany, Structural and Physiological; Astronomy. *ENGLISH—English and American Classics. *HISTORY—History of France and Germany. *MATHEMATICS—Integral Calculus. *FRENCH—Grammar completed; Knapp's Modern French Prose. *GERMAN—Classics; Prose Composition. *LATIN—Tacitus—Annals. *GREEK—Demosthenes. *MUSIC—Harmony. ORATORY—Same as Fall Term.

Senior Year.

Fall Term.—METAPHYSICS.—Elements of Intellectual Science. CHRISTIANITY—Evidences of Christianity, with Lectures. *NATURAL SCIENCE—*a.* Geology; *b.* Advanced Work in any Science. *LATIN—See Junior Course. *GREEK—See Junior Course. *FRENCH—Classics; Prose Composition throughout the year. *GERMAN—Classics; Studies in German Literature; Prose Composition throughout the year. (Conversation classes in French and German will be formed under the usual conditions). *PEDAGOGY—Elementary Work in Methods. *MUSIC—Counterpoint. ORATORY—Lectures and Exercises in Elocution and Oratory.

Winter Term.—*METAPHYSICS—Elements of Intellectual Science (half term). Moral Science (half term). *CIVIL POLITY—Lieber on Civil Liberty. *LATIN—See Junior Course. GREEK—See Junior Course. *FRENCH—Classics; Studies in French Literature. *GERMAN—Classics; Studies in German Literature. *NATURAL SCIENCE—Advanced Work. *MUSIC—Counterpoint. *PEDAGOGY—History of Education. ORATORY—Lectures and Exercises in Elocution and Oratory.

Spring Term.—*CIVIL POLITY—Political Economy. *HISTORY—History of Civilization. *LATIN—See Junior Course. *GREEK—See Junior Course. *FRENCH—Classics; Studies in French Literature. *GERMAN—Classics; Studies in German Literature. *NATURAL SCIENCE—Advanced Work. *MUSIC—Composition; History and Literature of Music. *PEDAGOGY—Philosophy of Education. ORATORY—Thesis for Graduation.

SCIENTIFIC COURSE.

Freshman Year.

Fall Term.—NATURAL SCIENCE—Inorganic Chemistry. MATHEMATICS—Higher Algebra. *GERMAN—Classics; Studies in German Literature; Prose Composition throughout the year. *FRENCH—Classics; Prose Composition throughout the year. (Conversation classes in French and German will be formed under the usual conditions.) ORATORY—Lectures on Composition and Style; Essays, Discussions, Orations, and Elocution.

Winter Term.—NATURAL SCIENCE—Inorganic Chemistry; Qualitative Analysis. MATHEMATICS—Solid Geometry. *GERMAN—Classics; Studies in German Literature. *FRENCH—Classics; Studies in French Literature. ORATORY—Same as Fall Term.

Spring Term.—NATURAL SCIENCE—Organic Chemistry; Determinative Mineralogy, Blowpipe Analysis. MATHEMATICS—Trigonometry. *GERMAN—Classics; Studies in German Literature. *FRENCH—Classics; Studies in French Literature. ORATORY.—Same as Fall Term.

Sophomore Year.

Fall Term.—ENGLISH—Logic. MATHEMATICS—Analytic Geometry; *Surveying. *HISTORY—Ancient and Mediæval History. GERMAN and FRENCH—The work for the third year in French and German is given in the general statement.† *MUSIC—Harmony.‡

ORATORY—Lectures on Composition and Style; Essays, Discussions, Orations, and Elocution.

Winter Term.—ENGLISH—Science of Rhetoric. NATURAL SCIENCE—Structural Botany. *HISTORY—History of England. *MATHEMATICS—Differential Calculus. GERMAN. FRENCH. *MUSIC—Harmony. ORATORY—Same as Fall Term.

Spring Term.—ENGLISH—History of English Literature. NATURAL SCIENCE—Structural and Physiological Botany. *HISTORY—History of France and Germany. *MATHEMATICS—Integral Calculus. GERMAN. FRENCH. *MUSIC—Harmony. ORATORY—Same as Fall Term.

Junior Year.

Fall Term.—NATURAL SCIENCE—Physics—Mechanics and Acoustics; Biology—Invertebrate Zoölogy. ENGLISH—Study of English Classics—Chaucer, Spenser, Shakespeare, Milton—with Lectures. ORATORY—Lectures on Composition and Style. Essays, Discussions, Orations and Elocution.

Winter Term.—NATURAL SCIENCE—Physics—Magnetism and Electricity. Biology—Vertebrate Zoölogy. Human Anatomy, Physiology and Hygiene. ORATORY—Same as Fall Term.

Spring Term.—NAT. SCIENCE—Physics—Hydrostatics, Pneumatics, Heat, Light; Biology—Theoretical Problems of Biology; Embryology; Human Anatomy, Physiology and Hygiene. ORATORY—Same as fall term.

Senior Year.

Fall Term.—METAPHYSICS—Elements of Intellectual Science. CHRISTIANITY—Evidences of Christianity, with Lectures. *NATURAL SCIENCE—Geology; Advanced work in any of the Sciences. *MUSIC—Counterpoint. *PEDAGOGY—Elementary work in Methods. ORATORY—Lectures and Exercises in Elocution and Oratory.

Winter Term.—METAPHYSICS—Intellectual Science (half term); Moral Science (half term). *CIVIL POLITY—Lieber on Civil Liberty. ENGLISH—English and American Classics. *HISTORY—Advanced History. NATURAL SCIENCE—Advanced work in any of the Sciences. *MUSIC—Counterpoint. PEDAGOGY—History of Education. ORATORY—Same as Fall Term.

Spring Term.—*CIVIL POLITY—Political Economy. *HISTORY—History of Civilization; Advanced History. *ENGLISH—English and American Classics. *NATURAL SCIENCE—Advanced work in any of the Sciences; Astronomy. *MUSIC—Composition; History and Literature of Music. *PEDAGOGY—Philosophy of Education. ORATORY—A Thesis for Graduation.

LITERARY COURSE.

Freshman Year.

Fall Term.—* LATIN—Cicero—De Amicitia and De Senectute. MATHEMATICS—Higher Algebra. *GERMAN—Classics; Studies in German Literature; Prose Composition throughout the year. *FRENCH—Classics; Prose Composition throughout the year. (Conversation classes in French and German will be formed under the usual conditions.) ORATORY—Lectures on Composition and Style; Essays, Discussions, Orations and Elocution.

† See page 32.

‡ Students who take this Course in Music may take a Junior study in Sophomore Year and Harmony in Junior Year.

Winter Term.— LATIN — Livy — Liber I. MATHEMATICS—Solid Geometry. *GERMAN—Classics; Studies in German Literature. *FRENCH—Classics; Studies in French Literature. ORATORY—Same as Fall Term.

Spring Term.— LATIN—Livy — Liber XXI and XXII. MATHEMATICS—Trigonometry. *GERMAN—Classics; Studies in German Literature. *FRENCH—Classics; Studies in French Literature. ORATORY—Same as Fall Term.

Sophomore Year.

Fall Term.—ENGLISH—Logic. HISTORY—Ancient and Mediæval History. ENGLISH — Advanced English. ORATORY — Lectures on Composition and Style; Essays, Discussions, Orations and Elocution.

Winter Term.—ENGLISH—Science of Rhetoric. HISTORY—History of England. NATURAL SCIENCE—Structural Botany. ORATORY—Same as Fall Term.

Spring Term.—ENGLISH — History of English Literature. HISTORY — History of France and Germany. NATURAL SCIENCE — Structural and Physiological Botany. ORATORY—Same as Fall Term.

Junior Year.

Fall Term.—ENGLISH—Study of English Classics—Chaucer, Spenser, Shakespeare, Milton—with Lectures. NATURAL SCIENCE—Physics—Mechanics and Acoustics; *any Laboratory Science. FRENCH AND GERMAN—The work of the third year in French and German is given in the general statement. *MUSIC—Harmony. ORATORY—Lectures on Composition and Style; Essays, Discussions, Orations and Elocution.

Winter Term.— ENGLISH — English and American Classics. NATURAL SCIENCE—*Human Anatomy, Physiology and Hygiene; *any Laboratory Science. FRENCH. GERMAN. *MUSIC—Harmony. ORATORY—Same as Fall Term.

Spring Term.—NATURAL SCIENCE—Human Anatomy, Physiology and Hygiene; Astronomy; *any Laboratory Science. FRENCH. GERMAN. *ENGLISH—English and American Classics. *MUSIC—Harmony. ORATORY—Same as Fall Term.

Senior Year.

Fall Term—METAPHYSICS — Elements of Intellectual Science. CHRISTIANITY—Evidences of Christianity, with Lectures. *NATURAL SCIENCE—Geology. ART. *PEDAGOGY—Elementary Work in Methods. *MUSIC—Counterpoint. ORATORY—Lectures and Exercises in Elocution and Oratory.

Winter Term. — METAPHYSICS — Intellectual Science (half term); Moral Science (half term). *CIVIL POLICY—Lieber on Civil Liberty; *Advanced History. ORATORY—Same as Fall Term.

Spring Term.—*CIVIL POLITY—Political Economy. *HISTORY—History of Civilization; Advanced History. *ART. *PEDAGOGY—Philosophy of Education. *MUSIC—Composition; History and Literature of Music. ORATORY—A Thesis for Graduation.

PREPARATORY DEPARTMENT.

This department is under the same general supervision as the other departments, and under the immediate direction and management of the Principal. The members enjoy the same privileges and are subject to the same regulations as the students in the college. Each group of subjects is taught by a college graduate who is a specialist of experience and ability.

TERMS OF ADMISSION.

Students who bring satisfactory certificates from any school of good standing will not be examined in the branches to enter the Junior year, but each subsequent recitation will be regarded as an examination. A student will be dropped at any time from a class in which he does not perform satisfactory work.

Candidates for a higher standing will be examined in the studies previously passed by the class they wish to enter.

By special arrangement, certificates for any or all preparatory studies are accepted from several high schools of the State, of whose thoroughness the Faculty have assured themselves, and from schools on the university list.

NOTE—Subjects with * are elective.

The school is not a suitable one for students who are idle, wayward, or averse to study, or for such as require the supervision of a teacher and the routine of a school room to enforce industry and fidelity.

All students are expected to bring certificates of good character and, if possible, satisfactory certificates of studies pursued elsewhere. No one under fourteen years of age will be received.

The Principal may be found in the college office on Wednesday, the day previous to the opening of each term, for consultation in reference to studies and rooms. The regular work of the classes begins on Friday, hence it is essential that students obtain their schedules of study and become settled in their rooms on Thursday.

CLASSES AND COURSES.

The regular work is arranged in four classes, each covering one year.

It provides three courses—Classical, Scientific, and Literary. A graduate of the Classical course may enter the Classical course of Olivet college without examination. This preparation will enable a student to enter any other American college. A graduate of the Scientific course may enter the Scientific course of Olivet college without examination. This preparation will enable a student to enter the best Scientific schools in the country. A graduate of the Literary course may enter the Literary course of Olivet college or the Philosophical course of other colleges.

Besides the course preparing for the regular college courses, this department offers the Preparatory Course for the Short College Course (p. 29). This preparation will enable a student to enter the Short Course of Olivet College. This course is an attempt to meet the needs of the large number of young men and young women who feel the need of a better preparation for life's work, but do not feel that they can complete a full college course of study. To all such a careful consideration of the characteristics of this course as set forth on page 29 is commended. The work of the first three years of the Normal course (p. 70) is done in this department.

Students are expected to have three hours of recitations each day, for five days in the week, besides rhetorical and physical exercises.

Diplomas are given to graduates from any of the above courses.

The work in general aims at two points—teaching and training.

All students are earnestly recommended to enter at once on the systematic prosecution of some one of the courses of study prescribed.

A variety of optional and extra studies is offered, especially in the Senior Year, to meet the wants of students who are fitting for definite college requirements, or are to enter advanced divisions in classics, mathematics, natural sciences, or modern languages at the colleges; and also to provide for ambitious students who may wish to broaden their preparation. It is not practicable to show all the possible combinations in the "Courses of study" on pp. 54–61.

All students of the department in their work have access to the privileges of the college library and museum; also of the physical, chemical, and biological laboratories.

CURRICULUM.

Junior Year.

Fall Term.—CLASSICAL—*†Arithmetic I; U. S. History II; Physical Geography; English I. LITERARY—Arithmetic I; U. S. History I; English Grammar I; English I. SCIENTIFIC—Arithmetic I; U. S. History I; English Grammar I; English I.

Winter Term.—CLASSICAL—Arithmetic II; Civil Government; Natural Philosophy; English II. LITERARY—Arithmetic II; Civil Government; English Grammar II; English II. SCIENTIFIC—Arithmetic II; Civil Government; English Grammar II; English II.

Spring Term.—CLASSICAL—Arithmetic III; Penmanship; Political Geography; Physiology; English III. LITERARY—Arithmetic III; Penmanship; Political Geography; Drawing I; English III. SCIENTIFIC—Arithmetic III; Penmanship; Political Geography; Drawing I; English III.

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* Bible study one hour a week throughout the courses.

† Students who have had preparatory mathematics or history may take French or German I, II, and III in place of any three terms of mathematics or history passed upon, to meet the requirements of some of the classical college courses in the country.

Junior Middle Year.

Fall Term.—CLASSICAL—Latin I; Algebra I; English Analysis; English IV. LITERARY—Latin I; Algebra I; English Analysis; English IV. SCIENTIFIC—Latin I; Algebra I; English Analysis; English IV.

Winter Term.—CLASSICAL—Latin II; Algebra II; Greek History; English V. LITERARY—Latin II; Algebra II; Greek History; English V. SCIENTIFIC—Latin II; Algebra II; Greek History; English V.

Spring Term.—CLASSICAL—Latin III; Algebra III; Roman History; English VI. LITERARY—Latin III; Algebra III; Roman History; English VI. SCIENTIFIC—Latin III; Algebra III; Roman History; English VI.

Middle Year.

Fall Term.—CLASSICAL—Latin IV; Algebra IV; Greek I; English VII. LITERARY—Latin IV; Algebra IV; Physical Geography; English VII. SCIENTIFIC—Latin IV; Algebra IV; Physical Geography; English VII.

Winter Term.—CLASSICAL—Latin V; Geometry I; Greek II; English VIII. LITERARY—Latin V; Geometry I; Natural Philosophy; English VIII. SCIENTIFIC—Latin V; Geometry I; Natural Philosophy; English VIII.

Spring Term.—CLASSICAL—Latin VI; Geometry II; Greek III; English IX. LITERARY—Latin VI; Geometry II; Physiology; English IX. SCIENTIFIC—Latin VI; Geometry II; Physiology; English IX.

Senior Year.

Fall Term.—CLASSICAL—Latin VII, Greek IV, Greek V, English X. LITERARY—Latin VII, French or German I, United States History II, English X. SCIENTIFIC—Latin VII or German I, French or German I, United States History II, English X.

Winter Term.—Latin VIII, Latin IX, Greek VI, English XI. LITERARY—Latin VIII, French or German II, Latin IX, English XI. SCIENTIFIC—Latin VIII or German II, French or German II, Latin IX, Drawing II, English XI.

Spring Term.—CLASSICAL—Latin X, Greek VII, Modern History, Thesis. LITERARY—Latin X, French or German III, Modern History, Thesis. SCIENTIFIC—Latin X or German III, French or German III, Modern History, Thesis.

A course in practical book-keeping is offered to students desiring it during the winter term.

COURSES OF INSTRUCTION.

ENGLISH.

GRAMMAR.

English grammar, I and II, covers the general subject and prepares for analysis.

The work in English analysis is a thorough study of the structure of the sentence and the grammar of its parts. Some poem, as Snow Bound, Enoch Arden, or Lady of the Lake, is analyzed by the class. Special attention is given to modes, infinitives, participles, and idioms.

ENGLISH.

I, II, III, IV, V, VI.

Composition in the Junior and Junior Middle Years aims to teach the student to express his thoughts clearly and correctly.

Attention is given to building and recasting sentences, outlining themes, and word study. Exercises are written by the students and corrected by the teacher.

Three hours each week throughout the Junior and Junior Middle Years are given to this work.

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*Students Preparing to enter the Massachusetts Institute of Technology, the Sheffield Scientific School, or other schools of similar grade, may take Algebra Completed, Solid Geometry or Trigonometry, in the place of either Latin VII, VIII and X; German I, II and III; or French I, II and III.

NOTE.—Preparatory courses for the Short College Course, are the same as the Preparatory, Classical, Scientific, and Literary courses.

VII, VIII, IX.

Elocution is the special English work for the Middle Year.
The essentials of the science, including Form, Tone, Pitch, Movement, etc., are taught, and weekly rehearsals with the teacher required.
Two hours each week throughout the Middle year are given to this work.

NORMAL DEPARTMENT.

The aim in this department is—
1. To give the student such a knowledge of the powers of the human mind and of the laws of their development, and such a familiarity with the most approved methods of instruction, as shall fit him for the profession of teaching.
2. To make him acquainted with the history of school systems and school law.
3. To give him a knowledge of school grading, organization, and management.

CURRICULUM.

The first three years of the course are identical with the Junior, Junior Middle, and Middle years of the Literary Preparatory course (see pages 59–61). The other two years are as follows:

Fourth Year.

Fall Term.—Latin, French, German, Methods, Drawing.
Winter Term.—Latin, French, German, Science of Teaching, Science of Government.
Spring Term.—Latin, French, German, Pedagogy, Rhetoric.

Fifth Year.

Fall Term.—Logic, Inorganic Chemistry, Higher Algebra.
Winter Term.—Botany, Solid Geometry, English History.
Spring Term.—Botany, History of English Literature, Pedagogy.
Lessons in Bible study and rhetorical work weekly throughout the course.

COURSE OF INSTRUCTION.

I. Elementary work in Methods
   a. Outline of mental faculties.
   b. Elementary sounds.
   c. Primary branches, how taught.
   d. School organization and government.
II. History of Education—
   a. Ancient systems.
   b. Modern English and American.
III. Pedagogy—
   a. Philosophy of education.
   b. Principles and laws of teaching.
   c. Application to certain branches, as reading, arithmetic, grammar, and geography.

Any student graduating from any of the college courses who has completed this course of instruction in pedagogy is entitled, on recommendation of the faculty, to receive from the State Board of Education a State teacher's certificate.

ART DEPARTMENT.

It is the object of this department to develop in the student's mind a correct idea of form, as well as an appreciation of the beautiful; also to train the powers of observation until the students are capable of working independently from life and sketching from nature.
Instruction will be given in the elements, principles, and practice of art after the plans approved by the experience of the best art schools, from the object and antique

—in drawing from the draped model and living head; the study of form and relief (modeling and wood-carving); and in composition, when pupils are sufficiently advanced to be able to apply their knowledge of art in an intelligent manner.

When there is an interest in outdoor work, a class will be arranged for sketching from nature.

A full year's scholarship in the painting class will be given to the most deserving pupil in the antique class.

A second prize of three months' scholarship will be given to the student ranking second.

Competitors must have worked six months in the school to be eligible for a prize.

Tuition must be paid in advance and no deduction will be made for absence from classes except in cases of sickness.

During commencement week there is an exhibition of work done through the year.

OLIVET CONSERVATORY OF MUSIC.

This school was established in connection with Olivet College in 1874. Its purpose is to afford superior advantages for pursuing the study of music in all its elementary and higher branches. The general plan of the school is similar to that of the best Conservatories in this country and in Europe. The course of study has been planned with reference to securing that symmetrical development which is essential to the true musician. Its connection with the college furnishes opportunity for the pursuance of studies along other lines of intellectual improvement, and it is the aim of the management to encourage the musical student in the attainment of a broad culture of the mind as a substantial basis for future advancement.

Courses of Study.

Four courses of study are offered:

1. A course in Piano and Theory, including Harmony, Counterpoint, Analysis and Musical History.
2. A course in Pipe Organ and Theory.
3. A course in Vocal Music and Theory.
4. A course combining work belonging to the three preceding courses.

A full course will take from four to five years. Those who wish to enter on a course leading to a diploma must give satisfactory evidence of having made such attainments in their studies as will enable them intelligently to pursue the curriculum of the Conservatory.

THE PIANOFORTE.

In the study of this instrument great attention is given to every detail of technique and to the development of a correct musical touch, since this is necessary to give intelligent expression to musical thought and feeling. The art of phrasing and the study of rhythm are especially emphasized, and every effort is made to develop the intellectual side of musical study rather than the purely emotional. The following course of study for the piano is an outline which may be followed or varied by the Director according to the need of the individual pupil.

PIANO PREPARATORY COURSE.—ONE YEAR.

Studies in Position and Touch, Plaidy's Technical Studies, Easy Etudes by Bertini, Koehler, Czerny, Loeschorn and others. Easy Sonatinas and Pieces by Clementi, Kuhlau, Reinecke, Lichner, Kirchner, etc. Major and Minor Scales in slow practice.

PIANO COURSE.

First Year.

Plaidy's Technical Studies, Mason's Technic, Major and Minor Scales and Arpeggios, Etudes by Czerny, Loeschorn, Koehler, Bertini, Heller, Schmidt, etc. Sonatinas and Sonatas by Clementi, Kuhlau, Haydn, Reinecke. Modern Pieces. Memorizing.

Second Year.

Mason's Technic, Major and Minor Scales, Grand Arpeggios, Dominant Seventh Arpeggios. Exercises in Double Thirds and Sixths. Etudes by Loeschorn, Kanse, Berens, Schmidt, Cramer, Jensen. Inventions by Bach. Sonatas by Haydn, Mozart, Beethoven. Songs without Words by Mendelssohn. Smaller Pieces by Schumann, Chopin, Schubert, Raff, Greig, etc. Memorizing.

Third Year.

Scales in Double Thirds and Sixths. Tausig's Daily Studies. Kullak's Preparatory Octave School. Etudes by Cramer, Seeling, Loeschorn, Moscheles, op. 70. Clementi's Gradus ad Parnassum. Sonatas by Mozart, Schubert, Weber, Beethoven. Fantasias, Impromptus, Ballads, etc., by Hummel, Raff, Mendelssohn, Schubert, Chopin, Schumann, etc. Concertos by Mozart, Mendelssohn and Field. Concert Pieces by Weber, Dupont, Rubenstein, Grieg, Mills, Moszkowski, Scharwenka, Thalberg, Gottschalk, Heller, etc. Memorizing.

Fourth Year.

Kullak's Octave School. Tausig's Daily Studies. Etudes by Chopin, Henselt, etc. Preludes and Fugues, French and English Suites by Bach. Sonatas and Concertos by Mendelssohn, Beethoven, Weber, Hummel, Chopin, etc. Concert Pieces by Liszt, Chopin, Schumann, Rubenstein, etc. Memorizing.

Many students require especial exercises in strengthening the muscles of the hand and arm. For such the Brotherhood Technicon is designed, and is used in this Conservatory under the supervision of the Teachers of the Piano.

THE PIPE ORGAN.

Students desiring to study the pipe organ, should have finished at least the first year in the regular course of piano playing.

A very complete pipe organ of two manuals and two and a quarter octaves of pedals, furnishes an opportunity for practice. In the lessons in organ playing, particular attention is given to the study of obligato pedal playing, registration, church service in all forms, choir accompament, etc. Pupils when advanced are afforded practical experience in accompanying the choir in chorus and quartette.

PIPE ORGAN COURSE.

First Year.

Strainer's and Rink's Organ Schools. Pedal Studies by Buck, Thayer. Easy Preludes and Fuges by Bach. Pieces by Merkel, Guilmant, Buck, Mendelssohn, etc.

Second Year.

Pedal Studies by Buck, Schneider, etc. Best's Arrangements from the Scores of the Great Masters. Preludes and Fugues by Bach. Sonatas by Merkel, Mendelssohn, etc. Selections by Batiste, Guilmant, Dubois, Grison, Lemmens, etc.

Third Year.

Toepfer's Organ Studies. Preludes and Fugues by Bach. Haendel's Concertos. Mendelssohn's Sonatas. Selections by Merkel, Rheinberger, Hesse, Buck, Widor, etc.

Fourth Year.

Preludes and Fugues, Trios, etc., by Bach. Sonatas by Rheinberger. Concert [illegible]s by Batiste, Best, Liszt, Whiting, St. Seans, etc.

CULTIVATION OF THE VOICE.

The aim of this department is to acquire a management of sound in singing. Especial attention is given to a healthy and skillful management of the breath; the production of a clear, full, and resonant tone, free from the throat; the art of phrasing correctly and the development of a refined musical taste.

COURSE OF INSTRUCTION.

First Year.

Lessons in Breathing. Emission of Voice in Tone Production, Blending of Registers. Intervals. Trill and Diatonic Scale in slow movement. Easy Studies and Solfeggios. Easy Songs and Ballads. Sight Reading.

Second Year.

Study of Major and Minor Intervals with and without Portamento Arpeggios. Chromatic Scale in slow movement. Major and Minor Scales. Exercises, Legato and Staccato. Progressive Studies and Solfeggios. English Songs and Ballads. Sacred Music. Sight Reading.

Third Year.

Major, Minor, and Chromatic Scales in more rapid movement. Development of Voice by use of Arpeggio. Sostenuto. More difficult Solfeggios. Art of Phrasing. Songs of moderate difficulty from Classic Writers. Sacred Music. Sight Reading.

Fourth Year.

Continuation of Scale Study. Embellishments. Advanced Exercises and Solfeggios. Phrasing, Songs from German, French, and Italian Composers. Difficult Songs from Classic Writers. Selections from Oratorios. Sight Reading.

THEORY OF MUSIC AND COMPOSITION.

This study should be undertaken as early as possible, as by a knowledge of it much time may be saved in the practice of vocal and instrumental music. A practical application of each principle is made immediately upon its presentation. Theory thus becomes of great value to the student in subsequent study. A knowledge of theory insures facility in reading at sight. The text books used are Emery's "Elements of Harmony," Richter's "Harmony," Bridge's "Treatise on Counterpoint," and Stainer's "Composition." The study of musical analysis will receive particular attention. The full course in theory will take three years.

MUSICAL HISTORY.

This course of study is thorough and comprehensive and extends through three terms. It includes the history of music and musical instruments from the most ancient times until the present, together with biographical sketches of the great composers. All candidates for graduation are expected to take this course.

DIPLOMAS AND CERTIFICATES.

A diploma will be given:

1. For the completion of the Piano Course with Theory, Musical Analysis, and History of Music.
2. For the completion of the course for Pipe Organ, Theory, Musical Analysis, and Musical History.
3. For the completion of the Vocal Course, with Piano (two years), Theory (two years), and History of Music.

LITERARY REQUIREMENTS.

Candidates for graduation are required to pass examination in the following studies or their equivalents: German, six terms; French, three terms; rhetoric, one term; acoustics, one-half term; English literature, one term.

They are also required to attend rhetorical classes during three years of their course in the Conservatory. Transient students in the Conservatory are recommended to elect one study each term to one of the courses of letters.

By the payment of the Conservatory tuition and incidental fee ($2.50) pupils may elect not more than two studies in the college without extra charge.

EXAMINATIONS.

Upon entering the Conservatory, students will be examined in the various branches to be studied. To facilitate examination, each pupil should be prepared to give a full statement of previous courses of study which may have been pursued, and to play or sing two or more well-practiced pieces as examples of attainment, besides scales and exercises.

COURSE OF READING.

The following course of reading is recommended to Conservatory students.

FIRST YEAR.

First Term.—Engle—Ancient Music. Elson—Curiosities of Music. Nohl—Mozart.

Second Term.—Henderson—Story of Music. Ella—Musical Sketches. Townsend—Hayden.

Third Term.—Elson—History of German Song. Beethoven—Letters (translated by Lady Wallace). Lampadius—Mendelssohn.

SECOND YEAR.

First Term.—Hunt—History of Music. Ehlert—From the Tone World. Wasielewski—Schumann.

Second Term.—Filmore—Pianoforte Music. Frost—Life of Schubert (Grove's Dict.). Ferris—The Great Composers.

Third Term.—Hullah—History of Modern Music. Barrett—English Church Composers. Nohl—Beethoven.

THIRD YEAR.

First Term.—Hullah—Transition Period of Musical History. Ferris—Great Singers. 1st and 2d series. Schoelcher—Life of Haendel.

Second Term.—Liszt—Life of Chopin. Mendlessohn—Letters from Italy and Switzerland (translated by Lady Wallace). Hueffer—Wagner.

Third Term.—Merz—Music and Culture. Poole—Life of Bach. Schumann—Music and Musicians.

The reading of three volumes per term will consume something less than one hour per day. The books required for the course may be found in the college library, as also many other valuable books of reference on musical subjects.

ADDITIONAL ADVANTAGES.

Occasional recitals will be given, both vocal and instrumental. The effort will be made to secure, each year, the services of some distinguished lecturer upon musical subjects. A sight reading vocal class will be organized and conducted during the first term of each year. Students having the requisite ability, may avail themselves of the opportunity for chorus singing in daily choir practice. Exhibition concerts may occur at the end of each term and are intended mainly to show the progress and proficiency of the pupils. The Musical Guild, a society formed of the students of the Conservatory and managed by them, meets every Monday evening. Its programs consist of instrumental and vocal selections, essays, etc.

All students of the Conservatory are advised to become members of the Guild.

The college library, numbering 21,000 volumes, is open to Conservatory students free of charge.

Gymnasium practice is provided for both young men and young women, under the direction of competent teachers.

Changes of great importance to the welfare of the college have been made in the personnel of the faculty. Willard G. Sperry, D. D., assumed the duties of president, Feb. 1.

Miss Flora Bridges, A. M., principal of the ladies department resigned at the close of the summer term. Her administration was signally successful and her resignation, on account of ill health, was deeply regretted by all. Miss Grace J. Haynes chosen to fill her place, comes with the best of credentials and has already achieved a marked success.

The Conservatory of music has entered its new home and has been put in the hands of Mrs. Lizzie E. Bintliff.

The art department is unchanged except by the addition of new material. There has been a steady growth of the library, which in its charming and convenient building, under the wise and faithful care of Prof. Joseph L. Daniels, is always the joy and pride of Olivet.

A new church will probably be completed before this volume comes into the hands of its readers. It is a stone structure to cost about $30,000. The college will be half owner in it. It will be commodious, of graceful architecture and in every way a satisfying addition to the property of the village and of the college.

A considerable addition has been made to the endowment of the college during the year, by the payment of the Erwin bequest, amounting to more than $90,000. The year may be regarded one of prosperity, of good order, of faithful attendance upon college duty by both officers and students.

In '94 Olivet celebrates her semi-centennial.

Respectfully submitted,
WILLARD G. SPERRY,
President.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The undersigned members of the Board of Visitors to Olivet College for the year 1892–93, beg leave to present the following report:

We arrived at Olivet on the morning of May 12 and devoted the day to inspecting the equipment of the college and to visiting such recitations and lectures as we had time for.

The newly elected President, Rev. Willard G. Sperry, received us cordially and gave us every facility for seeing the work of the institution on all sides. We were favorably impressed by this man, and confidently predict that his accession will prove an element of strength in the further development of the college. He is able and untiring, full of ideas, and thoroughly devoted to his work.

We found the library of 20,000 volumes fully classified and arranged in the

handsome and spacious building recently erected for its reception. Under the intelligent management of Professor Daniels, the librarian for many years past, this library has grown in the direction of the actual needs of professors and students, and has thus become a very important accessory to the work of the college. A commodious reading room in the library building is open several hours a day, and students are also privileged to draw books for use in their rooms.

The natural history collections in Mather Hall form a useful and attractive feature of the equipment. Important additions of wax models have been made recently for the illustration of embryology. The management of science hall, and the work of the biological laboratory in particular, seemed to us to be in thoroughly competent hands.

The Conservatory of Music has been transferred to the large house hitherto occupied by the President of the college, where, with increased accommodations, it shows corresponding increase of prosperity.

The erection of a new church edifice has been begun under the patronage of the corporation. This will furnish a much more commodious auditorium for commencement exercises than has been heretofore accessible.

The college has received large additions to its permanent endowment fund within the present year. The Erwin estate of New Britain, Connecticut, yields about $92,000, and many considerable sums have been received from other sources.

The work of the class rooms visited seemed to us good; much of it very good. A wholesome spirit of earnestness and manliness seemed to pervade the college community.

On the whole your visitors saw much to commend and little to criticise. The institution is under wise and progressive management, and in its own sphere and its way is doing a good work.

Respectfully submitted,

ISAAC N. DEMMON,
W. W. CHALMERS.

RAISIN VALLEY SEMINARY.

REPORT OF PRINCIPAL.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

In accordance with your request of the 23d inst., I submit to you this report of Raisin Valley Seminary, ending June 30, '93.

The principal for the year was T. W. White; associate teachers, Mary Edwards and J. F. Ratliff; Superintendent, John M. Hill; Matron, Mary E. Hill.

The total enrollment for the year was sixty-one, the number of boys and girls being about equal.

About half of the students live in the seminary halls.

The number in the graduating class was five, four boys and one girl; of these, three are now teaching in this county.

There are now one hundred seventeen members of the Alumni Association.

Four courses of study are offered of four years each, viz: Latin, English, Scientific, and Latin Scientific.

The university inspected the school this year, continuing our relation to that institution, and graduates are admitted without examination to the courses leading to the degrees B. S. and B. L.

At the beginning of the year a gymnasium 40 x 24 feet was built and equipped, and various improvements made in other buildings. This institution paid expenses and had a surplus.

One feature of the last two years has been the increase in numbers in higher grades and a decrease in the lower.

A marked degree of class spirit has arisen, manifested by class organizations, badges, and public entertainments.

The moral and religious interests have been exceptionally good, hence the school work has been characterized by honesty, industry, and thoroughness, and the managers have had to give but little care to discipline.

Thus the forty-fourth year has been a successful one, for, while there has been a slight decrease in attendance due to various causes, the higher ambitions of those present and the improved moral tone of the institution, together with more systematic planning on the part of the students, indicate substantial progress.

T. W. WHITE,
Principal.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *State Superintendent of Public Instruction:*

DEAR SIR—I spent most of the day, April 26, 1893, in visiting and examining the Raisin Valley Seminary. I found a small school attempting to carry out a rather extended curriculum with a force of three teachers.

I saw work in botany, American politics, arithmetic, and German. The work in botany and in German was fairly good, the other was not good, in fact was decidedly poor.

It struck me that the whole institution, including teachers and pupils, was deficient in energy and in enthusiasm.

There was no pretense, however, of doing what they were not doing and all the work was characterized by an evident spirit of honesty.

Very respectfully,

W. A. GREESON.

ST. MARY'S ACADEMY.

REPORT OF PRESIDENT.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The following report of St. Mary's Academy for the scholastic year 1892-93 is respectfully submitted.

This Academy, under the direction of the Sisters, Servants of the Immaculate Heart of Mary, and incorporated by the Legislature of Michigan, is situated on the banks of the River Raisin, in one of the most pleasant localities of Monroe.

The buildings are large and commodious, and are provided with all the modern improvements.

The grounds are extensive and well shaded, and afford ample advantages for out-door amusements and healthful exercises.

Non-Catholics are admitted into the institution, provided they conform to the general rules and regulations.

GENERAL REGULATIONS.

The scholastic year consists of two sessions of five months each; the first session commences on the first Tuesday in September and terminates on the last day of January; the second session commences on the first of February and closes with the annual commencement.

A thorough examination is made at the close of each session to test the pupil's proficiency in the various classes.

At their entrance into the Academy, applicants are examined and classed according to their previous attainments.

Promotions ordinarily take place at the beginning of the year, but they will be made at any time when warranted by the pupil's progress, or by a satisfactory examination.

Young ladies are received at any time during the year, their session beginning with the date of their entrance.

Strangers placing young ladies in the Academy are required to give satisfactory reference.

The financial condition of the institution is shown by the statement which accompanies this report. The number of pupils enrolled during the year was 165, exclusive of those young ladies residing in Monroe who received instruction in music, art, stenography, or typewriting.

The regular course of study embraces every useful and ornamental

branch of education suitable for young ladies. It aims at a carefully graded system of studies, beginning with the rudiments of every branch.

Latin, French, and German are optional studies. Industrial drawing, sight singing, physical culture and etiquette, domestic economy, plain sewing and art needle work are taught free of charge.

Several valuable works have been added to our library, the museum has received some interesting contributions, and considerable improvements have been made in Music Hall.

The past year has been one of the most successful in the history of the Academy. The pupils have manifested an earnest desire to avail themselves of every opportunity for their advancement and have heartily coöperated with their instructors.

BOARD OF TRUSTEES.

Mother M. Clotilda, President.
Sister M. Justina, Vice President.
Sister M. Gertrude, Secretary.
Sister M. Alaysia, Treasurer.
Sister M. Mechtildis.
Sister M. Augustine.
Sister M. Fidelia.

FACULTY.

Mother M. Clotilda, President and Prefect of Studies.
Sister M. Fidelia, 1st Academic Department.
Sister M. Alphonsine, 2d Academic Department.
Sister M. Leonella, Senior Department.
Sister M. Adila, Intermediate Department.
Sister M. Lucina, Junior Department.
Sister M. Paula, Preparatory Department.
Sister M. Loyola, Elocution.
Sister M. Virginia, Stenography and Typewriting.
Sister M. Blanche, French and Art.
Sister M. Alaysia, German.
Sisters M. Catharine and M. Germain, Art.
Sisters M. Theodosia, M. Bonomeo, M. Florence, M. Veronica, M. Grace, and M. Constance, Music.
Sister M. Athanasia, Art Needle Work.
Sister M. Augustine, Directress of Young Ladies.
Sister M. Leonora, Directress of Minims.

TEXT AND REFERENCE BOOKS.

Christian Doctrine—Baltimore Catechism, Deharbe.
Christian Evidences of Religion—Jouin.
Logic and Metaphysics—Coppens, Hill, DeConcilio.
Literature—Jenkins, Murray, Westlake.
Rhetoric—Coppens, Hill, Williams, Genung.
Church History—Spalding, Darras, Alzog.
General History—Sadlier, Fredet, Anderson, Vuibert.
United States History—Sadlier, Anderson, Scudder.

Astronomy—Steele, Sharpless & Phillips.
Physics—Steele, Kiddle, Appleton.
Chemistry—Steele, Norton, Shepard.
Botany—Wood, Gray.
Physiology and Hygiene—Brands, May, Tracy.
Zoölogy—Hooker, Steele.
Geology—Hooker, Steele, Dana.
Geometry and Trigonometry—Brooks, Robinson, Olney.
Algebra—Brooks, Wentworth, Olney.
Arithmetic—Brooks, Wentworth, Robinson.
Book-keeping—Lyte, Williams & Rogers.
Civil Government—Young, Townsend, McCleary.
Physical Geography—Maury, Mitchell.
Common School Geography—Sadlier, Maury.
Grammar—Harvey, Reed and Kellogg, Maxwell.
Readers—Y. C. Series.
Orthography—Reed & Kellogg's Word Book.
Object Lessons—Sheldon.
Language Lessons—Long.
Penmanship—Payson, Dunton & Scribner.
Dictionary—Webster.
Sight-singing—Mason.

CONFERRING OF DIPLOMAS AND GOLD MEDALS.

Miss Victoria Muller, Graduating Gold Medal; donor, Rt. Rev. J. S. Foley, D. D., Detroit.

Miss Mary Kruger, Graduating Gold Medal; donor, Rt. Rev. Mgr. Joos, V. G., Monroe.

PRIZE MEDALS.

Christian Doctrine—Miss Agnes Burns.
Excellence—Miss Rose Shay; donor, Mr. Richard Cahalen, Wyandotte.
Plain Sewing—Miss Mary Dwight; donor, Mrs. John Trainer, Chicago.
Domestic Economy—Miss Grace Cole.

MOTHER M. CLOTILDA,
President.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The committee appointed to visit St. Mary's Academy, Monroe, fulfilled that duty on May 17, 1893.

We were very kindly received and given every opportunity of becoming acquainted with the character of the educational work accomplished in that institution.

The academy has full English and commercial courses. In the former careful attention is given to grammar, rhetoric, literature, and logic; also to

mathematics, embracing the various grades from arithmetic to trigonometry, inclusive. The natural sciences are likewise taught successfully.

The commercial course embraces all the elementary branches of a good English education, with special attention to practical book-keeping.

Composition, industrial drawing, and sight singing accompany each course and are obligatory; but the modern languages are optional.

The institution also provides special courses in music, art, stenography, and typewriting. As domestic economy and needle work are deemed important factors in every woman's education, each pupil is required to devote some time to these branches.

Excellent specimens of class work were given, the various branches being taught in our presence by the respective teachers in such a manner as to afford conclusive evidence of careful and conscientious work on the part of both teachers and pupils. The recitations were models of directness, promptness, and accuracy, showing a thorough and practical acquaintance with the best methods of developing talent, awakening interest, and inspiring a taste for study.

Each class which recited before us was carried over a large amount of ground, with surprising accuracy and in an interesting manner, so that very little room was left or need felt for subsequent questioning by your committee. Such questions, however, as we did ask were as promptly and correctly answered as those propounded by the teachers. It was evident that the pupils were taught to study intelligently and were thoroughly acquainted with their subjects, yet without any appearance of cramming or any attempt at mere display.

We found the school rooms commodious, well lighted and seated, and models of neatness. They are also well supplied with such apparatus and appliances as modern educational methods require. The academy possesses a well stocked library and a valuable museum, the benefits of which are open to the students in the prosecution of their studies.

The conductors of the academy seem to have met the urgent demand of the times for serious, solid, and practical results in the higher education of women. They have pruned away much that is generally superficial and time consuming, without being of any appreciable value amidst the realties of life. Thoroughness was especially noticeable in some of those studies which are less likely to appeal to feminine taste, such as book-keeping, civil government, astronomy, and geometry. In these the showing was remarkable for depth, solidity, accuracy, and ease.

A class in sight singing was very interesting and satisfactory. It is hardly necessary to mention the vocal and instrumental music, calisthenics, or elocution, because in these departments St. Mary's Academy has long since gained an honorable and enviable position, which it seems determined to maintain.

While it was not possible to have any direct exhibition of the moral training which forms so essential an element in education, the modesty of the pupils, their alacrity, considerateness, the respectfulness to their teachers and to each other, their decorum and docility, all gave evidence that no efforts are spared to cultivate refined feelings, to develop their hearts as well as their minds.

M. P. DOWLING,
J. E. KINNANE,
C. F. FIELD.

SPRING ARBOR SEMINARY.

REPORT OF PRINCIPAL.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

I have the honor to submit to you the report of Spring Arbor Seminary for the academic year of 1893.

This institution is the property of the Free Methodist church and has been controlled and operated by them for about twenty-one years.

The interest in the school taken by the people of the community is good and the patronage fair. Extensive repairs have been placed upon the boarding hall during the year, and it is expected that funds will soon come into our possession with which to make further repairs upon the property, and improvements in our facilities for giving instruction.

As we have no endowment funds at all we are somewhat crippled in the way of helping indigent worthy students, but we are gratified with the quality of work done. This seminary is preëminently a Christian school. We endeavor to inculcate sound doctrine and to encourage students to obtain a rich and vigorous Christian experience.

The courses of instruction are as follows:

COURSES OF STUDY.

CLASSICAL COURSE.

FIRST YEAR.

First Term.—Latin Lessons, Physical Geography, Algebra.
Second Term.—Latin Lessons, Civil Government, Algebra.
Third Term.—Latin Lessons, General History, Algebra.

SECOND YEAR.

First Term.—Greek Lessons, Cæsar, Geometry.
Second Term.—Greek Lessons, Cæsar, Geometry.
Third Term.—Greek Lessons, Cicero, Geometry.

THIRD YEAR.

First Term.—Anabasis, Cicero, Astronomy.
Second Term.—Anabasis, Vergil, Moral Philosophy.
Third Term.—Homer, Vergil, Intellectual Philosophy.

LATIN COURSE.

FIRST YEAR.

First Term.—Latin Lessons, Physical Geography, Algebra.
Second Term.—Latin Lessons, Civil Government, Algebra.
Third Term.—Latin Lessons, General History, Algebra.

SECOND YEAR.

First Term.—Cæsar, Natural History, Natural Philosophy.
Second Term.—Cæsar, Physiology, Old Testament History.
Third Term.—Cicero, Botany, New Testament History.

THIRD YEAR.

First Term.—Cicero, Rhetoric, Geometry.
Second Term.—Vergil, Rhetoric, Geometry.
Third Term.—Vergil, Logic, Intellectual Philosophy.

SCIENTIFIC COURSE.

FIRST YEAR.

First Term.—Algebra, Physical Geography, United States History.
Second Term.—Algebra, Civil Government, United States History.
Third Term.—Algebra, Botany, General History.

SECOND YEAR.

First Term.—Geometry, Natural History, Natural Philosophy.
Second Term.—Geometry, Physiology, Old Testament History.
Third Term.—Geometry, Chemistry, New Testament History.

THIRD YEAR.

First Term.—Rhetoric, Astronomy, Geology.
Second Term.—Rhetoric, English Literature, Moral Philosophy.
Third Term.—Logic, English Literature, Intellectual Philosophy.

All of which is respectfully submitted.

D. S. WARNER,
Principal.

REPORT BOARD OF VISITORS.

HON. H. R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—Your committee, in company with Commissioner D. E. Haskins of Jackson, visited Spring Arbor Seminary, Friday, Feb. 3, 1893.

This institution is located nine miles southwest of Jackson on the Air Line division of the Michigan Central railroad. The two plain, comfortable buildings are situated in the midst of a pleasant tract of about five acres.

The larger of these buildings contains the Seminary chapel and recitation rooms; the other is used as a boarding hall, kept by the principal and his wife.

The school is but sparingly equipped with apparatus. Its library consists of about four hundred volumes, which are largely reference books.

In prescribing the course of study, the ordinary lines of high school work have been followed somewhat closely. Latin and scientific courses are given, as well as the English branches. Your committee listened to nearly all the recitations of an entire school day. The work seems to be thoroughly performed, that in Latin and mathematics being especially commendable. Provision is made for the instruction of pupils too young for regular Seminary work. This part of the work is done in as satisfactory a manner as circumstances will permit.

The institution is under the patronage of the Free Methodist church organization, and is exerting a wholesome Christian influence. The principal and his wife and teachers are earnest people who give their whole heart to this work. They deserve a more liberal financial support than they appear to be receiving.

All of which is respectfully submitted.

H. S. WATERBURY,
E. H. HINCKLEY,
J. E. HAMMOND.

WESTERN MICHIGAN COLLEGE.

REPORT BOARD OF VISITORS.

HON. HENRY R. PATTENGILL, *Superintendent of Public Instruction:*

DEAR SIR—The undersigned members of the Board of Visitors to the Western Michigan College would respectfully report as follows:

We made our visit of inspection on the 28th of March without previous arrangement with the Faculty as to date, and found the institution in a decidedly unsettled condition owing to a recent change of Presidents, the resignation of several members of the Faculty, and financial embarrassment. Everything seemed to indicate that the College was rapidly approaching a crisis in its affairs. Many of the students had gone to their homes, and but few classes were in session, others having been abandoned. Under the existing circumstances, first-class work was not to be expected. We visited classes in botany, arithmetic, type-writing, and short-hand, and saw some fair work.

The new President, Mr. Daniel Fulcomer, is a genial, affable gentleman, and he impressed us as a man of broad culture and much executive ability. He informed us that efforts were being made, with fair prospects of success, to raise a building and endowment fund of $35,000, and to get a representative body of citizens of Grand Rapids interested as stockholders and trustees of the institution. We were also informed that a committee of the Board of Trade and a committee of another association had entered heartily into the undertaking and were doing all they could to interest the public in the project.

Mr. Fulcomer seemed quite sanguine as to the success of the scheme; but to us, judging from such information as we were able to gather, the task appeared hopeless. We believe, however, that Mr. Fulcomer will carry it to success if any one can. He is an experienced man in such matters, and we hope he may be successful in his undertaking.

The College property is a valuable one; and, with proper financial encouragement from the citizens of Grand Rapids, the institution can be made a power for the cause of education in the community.

Respectfully submitted,

DAVID A. HAMMOND,
D B. YNTEMA.

INDEX.—PART II.

Adrian College, report of board of visitors 315
President 304
Agricultural College, courses of instruction 277
faculty and other officers 276
report of the President 276
Akeley Institute, report of board of visitors 302
chaplain 301
Albion College, report of board of visitors 321
President 316
Alcona county, report of school commissioner 135
Allegan county, report of school commissioner 136
Allen, T. E., school commissioner, report of 139
Alma College, outline of course of study, revised 323
report of board of visitors 325
President 323
Alpena county, report of school commissioner 138
Andrus, Enoch, school commissioner, report of 143
"The Need of Better Facilities for the Professional Training of Teachers for our Common Schools" 7
Angell, Jas. B., President of University, report of 251
Antrim county, report of school commissioner 140
Arenac county, report of school commissioner 141

Ball, Maud R., "Unification of Work" 64
Baraga county, report of school commissioner 141
Barlow, Rose, "Literature as a Basis of Unification" 74
Barry county, report of school commissioner 142
Baskin, E., school commissioner, report of 167
Battle Creek College, course of study 329
report of board of visitors 330
President 328
Bay county, report of school commissioner 142
Beach, Maria A., school commissioner, report of 151
Beggs, S. S., school commissioner, report of 203
Benkelman, W. F., school commissioner, report of 158
Belfield, Prof. H. H., "Manual Training" 51
Bement, Mayor A. O., Address of Welcome 33
Bennett, B., school commissioner, report of 195
Benzie county, report of school commissioner 146
Benzonia College, report of board of visitors 333
President 331
Bidwell, E. P., school commissioner, report of 181
Bird, J. W., school commissioner, report of 184
Boer, G. E., Rector Theological School of the Holland Christian Reformed Church, report of 353
Boone, R. G., "General Culture as an Element in Professional Training" 39
Branch county, report of school commissioner 145
Brown, P. M., school commissioner, report of 183
commissioner, "Has the Attempt to Grade Country Schools Proved a Success?" 14
Bruske, August F., President Alma College, report of 323
Burnham, Prof. Smith, "College Athletics, The Proper Attitude of Faculty and Students Toward Them" 89

Calhoun county, report of school commissioner 148
Case, Jas. A., school commissioner, report of 138
Charlevoix county, report of school commissioner 151
Cheboygan county, report of school commissioner 153
Cheever, W. H., President's Address State Teachers' Association 33
Chippewa county, report of school commissioner 154
Clapp, Ashley, school commissioner, report of 172

Clare county, report of school commissioner 155
Cleary's Business College, report of board of visitors 334
Clinton county, report of school commissioner 156
Clotilda, Mother M., President St. Mary's Academy, report of 401
Cogswell, F. W., school commissioner, report of 199
Converse, Supt. F. E., Response to Address of Welcome 32
Crawford county, report of school commissioner 158

Decisions of the Supreme Court 229
Delta county, report of school commissioner 159
Detroit College, report of board of visitors 341
President 335
Detroit Home and Day School, report of board of visitors 346
Principal 343
Dickinson county, report of school commissioner 160
Dowling, Rev. M. P., President Detroit College, report of 335
Draper, Supt. A. S., "The Teaching of Science in the Public Schools" 104
Durfee, Stephen, school commissioner, report of 177
Eaton county, report of school commissioner 161
Edwards, A. D., school commissioner, report of 165
Evelyn Industrial Institute for Girls, report of Superintendent 348
Examination questions 205-238

Frederick, Lorenzo, school commissioner, report of 135
French, W. H., school commissioner, report of 164
Field, Commr. C. F., discussion of "Examinations and Promotions in the Country Schools" 26
Field, C. F., school commissioner, report of 177
Fiske, L. R., President Albion College, report of 316

Galbraith, D. J., school commissioner, report of 153
German-American Seminary, report of Principal 351
Gogebic county, report of school commissioner 162
Goodrich, Grace, "History as a Basis of Unification" 70
Gorton, Lewis G., President Agricultural College, report of 276
Gorton, S., school commissioner, report of 196
Gould, Wm. E., school commissioner, report of 190
Grading the schools, discussed in reports of school commissioners 135-204
Grand Traverse county, report of school commissioner 163

Hall, Mrs. L. E. W., school commissioner, report of 179
Harvey, S. B., President of Benzonia College, report of 331
Haskins, D. E., school commissioner, report of 171
Hayes, S. E., school commissioner, report of 141
Heller, Regenia R., Concentration of Studies 57
Herman, D. W., school commissioner, report of 145
Herman, G., Principal German-American Seminary, report of 351
Herrick, Geo. E., school commissioner, report of 204
Hillsdale College, report of President 352
Hillsdale county, report of school commissioner 164
Hills, Supt. C. W., "The Township Unit" 121
Hope College, course of study 358
members of council 356
faculty 357
report of board of visitors 364
President 356
Houghton county, report of school commissioner 165
Huron county, report of school commissioner 167

Institutes, discussed in reports of school commissioners 135-204
Iosco county, report of school commissioner 168
Iron county, report of school commissioner 170

Jackson county, report of school commissioner 171
Jenney, Charles L., school commissioner, report of 187

Kalamazoo College, course of study 368
members of faculty 367
report of board of visitors 377
President 366
Kalamazoo county, report of schoool commissioner 172
Kalkaska county, report of school commissioner 173
Kent county, report of school commissioner 174
Keweenaw county, report of school commissioner 174
Kindergarten Methods in Primary Grades, discussed in reports of school commissioners 135-204
Kinnane, J. E., school commissioner, report of 143
Kollen, Gerritt J., President of Hope College, report of 356

Lapeer county, report of school commissioner 176
Lathrop, H. Antoinette, "Nature Study as a Basis of Unification" 80
Latta, P. A., school commissioner, report of 186

Lenawee county, report of school commissioner ... 177
Liggett, James D., Principal Detroit Home and Day School, report of ... 343
Livingston county, report of school commissioner ... 177
Lott, H. C., school commissioner, report of ... 140

Manistee county, report of school commissioner ... 179
Marquette county, report of school commissioner ... 180
Mason county, report of school commissioner ... 181
McClure, D. E., school commissioner, report of ... 194
McCulloch, J. F., President Adrian College, report of ... 304
McGee, Z. F., school commissioner, report of ... 146
McLellan, Archibald, school commissioner, report of ... 208
McWethy, George W., school commissioner, report of ... 163
Mecosta county, report of school commissioner ... 188
Menominee county, report of school commissioner ... 184
Michigan Female Seminary, report of board of visitors ... 379
Michigan Military Academy, report of Superintendent ... 351
Michigan Mining School, report of board of visitors ... 298
Director ... 281
Midland county, report of school commissioner ... 187
Miller, Louise, "Nature Study as a Basis of Unification" ... 83
Missaukee county, report of school commissioner ... 188
Monroe county, report of school commissioner ... 189
Monroe, J. S., school commissioner, report of ... 162
Montgomery, J. B., school commissioner, report of ... 180
Moriarty, M. H., school commissioner, report of ... 170
Mosher, George F., President of Hillsdale College, report of ... 352
Murphy, Commr. E. A., discussion of "Has the Attempt to Grade Country Schools Proved a Success" ... 19

Newaygo county, report of school commissioner ... 190
Nichols, Alfred, school commissioner, report of ... 174

Oakland county, report of school commissioner ... 192
Obenauer, Emma, Superintendent Evelyn Industrial Institute, report of ... 348
Observance of Special Days, discussed in reports of school commissioners ... 135-204
Oceana county, report of school commissioner ... 194
Officers of State Teachers' Association from 1860 to 1893 ... 2
1893-4 ... 3
Ogemaw county, report of school commissioner ... 195
Olivet College, members of corporation ... 394
faculty ... 395
report of board of visitors ... 397
President ... 394
Osceola county, report of school commissioner ... 196
Oscoda county, report of school commissioner ... 196
Osgerby, J. K., school commissioner, report of ... 168
Otsego county, report of school commissioner ... 199

Palmerlee, C. E., school commissioner, report of ... 176
Parmenter, E. L., school commissioner, report of ... 160
Pierce, A. G., school commissioner, report of ... 173
Prescott, W. W., President Battle Creek College, report of ... 338

Qualifications of Teachers, discussed in reports of school commissioners ... 153-204
Questions for examination for county examinations ... 221-238
State certificates ... 207-220

Randall, A. G., school commissioner, report of ... 148
Randall, Commr. A. G., Examinations and Promotions in the Country Schools ... 21
Raisin Valley Seminary, report of board of visitors ... 400
Principal ... 399
Reading Circle Work, discussed in reports of school commissioners ... 135-204
Reference Books at Schoolhouse, discussed in reports of school commissioners ... 135-204
Reports of county commissioners of schools ... 135-204
Roche, Georgia, school commissioner, report of ... 148
Rogers, J. Sumner, Superintendent Michigan Military Academy, report of ... 351
Roscommon county, report of school commissioner ... 200
Rowe, P. T., school commissioner, report of ... 154
Roys, Herman M., school commissioner, report of ... 155

Schafer, W. C., school commissioner, report of ... 141
School apparatus, discussed in reports of school commissioners ... 135-204
Schoolcraft county, report of school commissioner ... 202
School grounds, beautifying, discussed in reports of school commissioners ... 135-204
Schools, grading of, discussed in reports of school commissioners ... 135-204
visitation of, discussed in reports of school commissioners ... 135-204
Sheldon, Hudson, school commissioner, report of ... 201
Shiawassee county, report of school commissioner ... 201
Sill, J. M. B., Principal of Normal School, report of ... 265
Slocum, A. Gaylord, President Kalamazoo College, report of ... 366

Sly, A. C., school commissioner, report of 200
Smith, A. Hamlin, school commissioner, report of 174
Smith, A. P., school commissioner, report of 159
Smith, Supt. J. W., "Reading as as a Basis of Unification" 66
Sperry, Willard G., President Olivet College, report of 384
Spring Arbor Seminary, report of board of visitors 406
Principal 405
Stark, O. B., school commissioner, report of 198
State Agricultural College. (See Agricultural College.)
State and incorporated institutions 249
State Normal School, report of board of visitors 274, 275
Principal 285

STATE TEACHERS' ASSOCIATION:
Address of Welcome, Mayor A. O. Bement 32

College Section:
"College Athletics—The Proper Attitude of Faculty and Students Toward Them," Prof. Smith Burnham 89
Report of Prof. Hamilton King 88

Commissioners' Department:
Examinations and Promotions in the Country Schools, Commr. A. G. Randall 21
"Has the Attempt to Grade Country Schools Proved a success?" Commr. P. M. Brown 14
Report of the committee on needed legislation 31
"The Need of Better Facilities for the Professional Training of Teachers for our Common Schools," Commr. Enoch Andrus 7
"General Culture as an Element in Professional training," Dr. R. G. Boone 39
List of members 4
Manual Training, Prof. H. H. Belfield 51
Miscellaneous Business 117
Officers of association from 1860 to 1893 2
1893-94 3
President's Address, W. H. Cheever 33

Primary Section:
Concentration of Studies, Regenia R. Heller 57
"History as a Basis of Unification," Miss Grace Goodrich 70
"Literature as a Basis of Unification," Miss Rose Barlow 74
"Nature Study as a Basis of Unification," H. Antoinette Lathrop 80
Miss Louise Miller 53
"Reading as a Basis of Unification," Supt. J. W. Smith 66
Unification of Work, Miss Maud Ball 64
Report of executive committee upon the teachers' building at Hackley Park 103
meeting 7-131
treasurer 130
Response to Address of Welcome, Supt. F. E. Converse 32
"The Michigan Mining School," M. E. Wadsworth 105
"The Teaching of Science in the Public Schools," Supt. Draper 104
"The Township Unit," Supt. C. W. Hills 121
St. Mary's Academy, report of board of visitors 403
President 401

SUPREME COURT DECISIONS:
Authority to purchase apparatus 247
County commissioner of schools, qualifications for office 244
Notice for calling of special school meeting 241
School districts—Detaching territory from graded districts 241
Teachers contracts made prior to annual meeting—Legality of certificates 242

Teachers Institutes, discussed in reports of school commissioners 135-204
Teaching Patriotism, discussed in reports of school commissioners 135-204
Theological School for the Holland Christian Reformed Church, report of board of visitors 354
Rector 353

Uniformity of text books, discussed in reports of school commissioners 135-204
University of Michigan, report of President 251

Visitation of schools, discussed in reports of school commissioners 135-204

Wadsworth, M. E., Director of State Mining School, report of 281
"The Michigan Mining School" 105
Wagner, J. L., school commissioner, report of 161
Warner, D. S., Principal of Spring Arbor Seminary, report of 405
Wayne county, report of school commissioner 203
Webster, Elmer E., school commissioner, report of 192
Western Michigan College, report of board of visitors 408
Wexford county, report of school commissioner 204
White, T. W., Principal Raisin Valley Seminary, report of 399
Wilkinson, James E., Chaplain Akeley Institute, report of 302
Winston, R. M., school commissioner, report of 156

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